APR 5 1928

Medical Times

THE JOURNAL OF THE AMERICAN MEDICAL PROFESSION

A Monthly Record of Medicine, Surgery and the Collateral Sciences

Published by THE MEDICAL TIMES COMPANY at 95 Nassau Street

57 Years of Faithful Service

Established 1872 Entered as second class matter Nov. 9, 1901, at the post office of New York, New York, under the Act of March 3, 1879.

Vol. LVI., No. 4 **New York** **Twenty-Five Cents a Copy**
Two Dollars a Year

In This Issue

Genito-Urinary Cases of Interest
Henry H. Morton, M.D., F.A.C.S.

The Psychoneuroses
J. C. Yaskin, M.D.

Dysuria Following Ephedrine Therapy
L. Napoleon Boston, A.M., M.D.

Functional or Nonorganic Heart Murmurs
Samuel A. Loewenberg, M.D.

Cosmetics
S. Dana Hubbard, M.D.

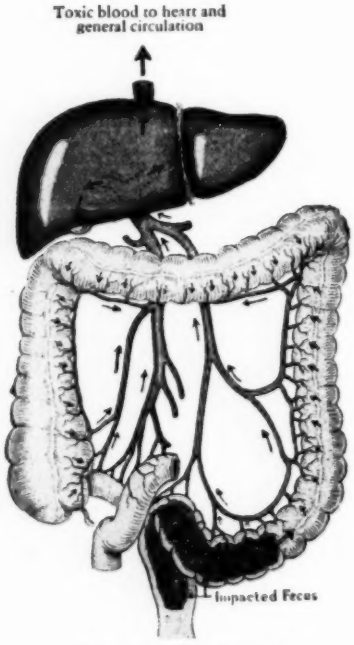
Complete Index to Reading Pages on Page 15

APRIL, 1928

Dissolves Intestinal Toxins

NOT the least valuable of its properties is the behavior of Nujol toward intestinal toxins.

If a watery solution of indol be shaken up with Nujol, more than half the indol is quickly taken up. Nujol readily dissolves this and other waste and poisonous substances, many of which are more soluble in Nujol than in water. Once absorbed in Nujol, they cannot be absorbed by the system as Nujol itself is non-absorbable.



The path of intestinal toxemia

The brownish color of Nujol as seen in the stool is partly due to toxins which it holds in solution.

Nujol is a safe and effective treatment in all types of constipation and intestinal toxemia.

Nujol

REG. U.S. PAT. OFF.

Medical Times

THE JOURNAL OF THE AMERICAN MEDICAL PROFESSION

A Monthly Record of Medicine, Surgery and the Collateral Sciences

Vol. LVI, No. 4 | New York, April, 1928 | Twenty-Five Cents a Copy Two Dollars a Year

Board of Contributing Editors

WM. G. ANDERSON, M.Sc., M.D., DR.P.H....New Haven, Conn.
JOHN W. BOWLER, A.M., M.D. .....Hanover, N. H.
HENRY CLARK COE, M.D., F.A.C.S.....New York
EDWARD E. CORNWALL, M.D., F.A.C.P.....Brooklyn, N. Y.
CHARLES J. DRUECK, M.D. .....Chicago, Ill.
LIEUT. JOHN DUFF, JR., Medical Corps....United States Navy
KENNON DUNHAM, M.D. .....Cincinnati, O.
W. L. ESTES, M.D. .....South Bethlehem, Pa.
HAROLD HAYS, A.M., M.D., F.A.C.S.....New York
AIMÉ PAUL HEINECK, M.D. .....Chicago, Ill.
WALTER J. HIGHMAN, M.D.....New York
HARVEY BURLESON MATTHEWS, M.D., F.A.C.S..Brooklyn, N. Y.
EDWARD H. MARSH, M.D.....Albany, N. Y.
ROBERT T. MORRIS, A.M., M.D, F.A.C.S.....New York
HENRY T. MORTON, M.D., F.A.C.S.....Brooklyn, N. Y.
D. G. MACLEOD MUNRO, M.D., M.R.C.P. (Edin.)..London, Eng.
GEORGE THOMAS PALMER, M.D. .....Springfield, Ill.
VICTOR C. PEDERSON, M.D., F.A.C.S.....New York
JOHN O. POLAK, M.Sc., M.D., F.A.C.S.....Brooklyn, N. Y.
JOHN PUNTON, A.M, M.D.....Kansas City, Mo.
DUNBAR ROY, M.D. .....Atlanta, Ga.
ALBERT H. SHARPE, M.D.....Ithaca, N. Y.
JOHN W. SHUMAN, M.D., F.A.C.P.....Los Angeles, Calif.
JOHN P. SPRAGUE, M.D.....Chicago, Ill.
OLIVER L. STRINGFIELD, B.S., M.D.....Stamford, Conn.
ALMUTH C. VANDIVER, B.S., LL.B.....New York
REYNOLD WEBB WILCOX, M.D., LL.D., D.C.L....Princeton, N. J.

Cases of Interest in the Genito-Urinary Service of St. Peter's Hospital

HENRY H. MORTON, M.D., F.A.C.S.,

ATTENDING GENITO-URINARY SURGEON, ST. PETER'S HOSPITAL; PROFESSOR EMERITUS AND CONSULTING SURGEON, DEPATRMENT GENITO-URINARY DISEASES, LONG ISLAND COLLEGE HOSPITAL

Brooklyn, N. Y.

The conditions giving rise to the three cardinal symptoms of disease of the genito-urinary tract, pain, frequency of urination and hematuria, are well illustrated by the following cases from the urological wards of St. Peters Hospital.

Intracapsular Nephrectomy for Renal Calculus.

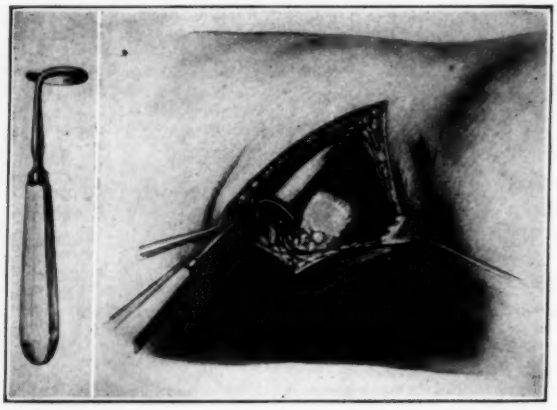
Nicholas G. Aged 52. Male. Italian. A man of poor physique, underweight and nervous. Entered St. Peters stating that he had had hematuria more or less constantly for the past six months. Four months ago he felt a continuous dull pain in the right flank, which became severe three weeks ago, radiating to the testicle. Examination of the lungs was negative; heart action was feeble and rather rapid (pulse of 100). Palpation showed a tumor in the right flank which was painful on pressure. Urine was cloudy; 1016, with much pus present.

Cystoscope showed a normal bladder. Ureteral catheterization: The catheter passed without obstruction into the pelvis of the left kidney; on the right side the catheter was arrested one-half inch below the ureter opening. Indigo carmine came from the left side in five minutes, but none appeared from the right side after twenty minutes. A radiogram showed a very large kidney and a shadow the shape and size of an Indian arrowhead in the pelvis of the right kidney. Pyelogram of the right side showed enormously distended kidney pelvis.

This examination showed that we had to deal with a stone in the right kidney of long standing, with complete destruction of the kidney, and a sound kidney on the left side. The value of the indigo carmine test was well illustrated, for the dye appeared in five minutes on the sound side, but none appeared after waiting twenty minutes on the affected side, thus proving that the diseased kidney was of no secreting value and should be removed while the other kidney was healthy and able to support life. As the pyelogram showed the kidney to be very much enlarged, it was determined to take out the twelfth rib as a preliminary to the nephrectomy. The rib was easily and rapidly removed, increasing the wound space very satisfactorily, so that it was possible to perform all the necessary manipulations with ease. When removing the rib we used a special raspatorium to free the muscular attachments, and the rib was cut through at its base with a rib cutter. With the excellent exposure of the kidney thus obtained, it was comparatively easy to dislocate the kidney from its bed and bring it out on the flank. The kidney was very large and its capsule one-fourth of an inch thick. The muscles of the flank were infiltrated with pus, and there was a beginning perinephritic abscess. The kidney capsule was incised freely and pushed away from the kidney to the insertion of the pedicle, which was clamped, using two clamps at right angles to each other. The use of two clamps for holding the pedicle, we consider a very important bit of operative technique; for one clamp may slip off and the artery and vein fall into the bottom of the wound, out of reach, and a fatal hemorrhage may occur. This accident is guarded against by always using two clamps, except in cases where it is possible to ligate the artery and vein separately, which of course is

preferable. After the clamps were applied, and we were sure they were holding, the kidney was cut away from the vessels and the ureter and each ligated separately. A rubber drainage tube and gauze pack were inserted and the wound sewed in layers.

The kidney was filled with pus and converted into a



CASE I
Raspatorium: For freezing muscular attachments of 12th rib

mere shell, and contained a large stone the shape of an arrowhead. During the course of the operation, the patient's pulse failed, but we had anticipated this complication would probably be met with, and under the use of camphor in oil by hypodermic, and whiskey and coffee by rectum, the circulation was restored and the patient left the operating room in fairly good condition. He made a smooth recovery and left the hospital in about four weeks with the wound completely healed, and feeling in general better than in some years.

The particular points of interest in this case seem to me to be (1) the use of the indigo carmine as a functional test; (2) the removal of the rib to give ample space; (3) the intracapsular enucleation of the kidney, and (4) the use of the two clamps on the pedicle of the kidney.

Pyelonephrotomy for Renal Calculus

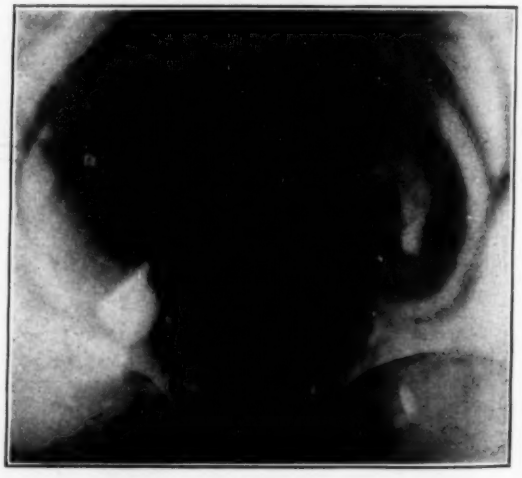
The symptom of intermittent or paroxysmal pain in the back is by no means invariably caused by disease of the kidney; and, yet when such pain is present, and sufficiently marked to cause annoyance, the patient is entitled to a full urological examination to find or exclude renal pathology.

William M., aged 24 years, well nourished young man. Complained of pain in the left loin for ten years; irregular occurrence, daily or weekly, or monthly, of a few minutes duration. Never very acute, but always dull in character. Urination normal and urine clear. There was but little to call attention to the genito-urinary tract, and his only symptom was the intermittent dull pain over the flank. For diagnosis, full genito-urinary examination was necessary. Radiogram showed a triangular shadow in the region of the left kidney, and the kidney was enlarged. Ureteral catheterization showed no pus on the left side; indigo carmine was delayed. On the right side there was no pus, and indigo carmine came through in normal time of five minutes. In this instance a radiogram was indispensable for diagnosis, for in no other way could stone be diagnosed with certainty, although a strong suspicion might probably be entertained that calculus was causing the symptoms. But an x-ray diagnosis of calculus in one kidney is not enough in the way of preliminary information to warrant operation, for it is absolutely essential that the surgeon knows that the patient has a sound functioning kidney on the other side. Without this knowledge the fatal error of removing the patient's only functioning kidney may be made, and indeed, before ureteral catheterization and kidney function tests came into universal use, this mistake has probably been made more frequently than published statistics would indicate.

Having decided then from a study of the x-ray plates that the stone was lying in the lower calyx of the kidney, it was thought advisable to remove it by posterior pyelotomy. This is a simple and safe procedure, avoiding the dangers of secondary hemorrhage and infection of the kidney which attend upon a nephrotomy.

Operation May 19, 1927. The kidney was exposed by the usual incision; it was found to be somewhat enlarged but not very adherent. After the kidney had been lifted onto the flank, palpation disclosed a stone in the lower pole. The pelvis was incised posteriorly; with the finger, the pelvis was explored and a stone located in the lower calyx; it was grasped with forceps and removed. From examination of the pelvis and calyces with the finger, it was found that there was a small fragment in the pelvis which was removed through a counter opening in the posterior part of the kidney. The kidney was then decapsulated and fixed by suture through it to the upper border of the wound. The incision in the pelvis was closed with interrupted cat gut sutures. A rubber drainage tube and gauze pack was put in to the bottom of the wound in the flank and the wound closed by suture around the drain.

This patient was more fortunate than the preceding one; for although the stone had been in the kidney for ten years, infection had not occurred. A stone may remain silent in the kidney without causing much in the



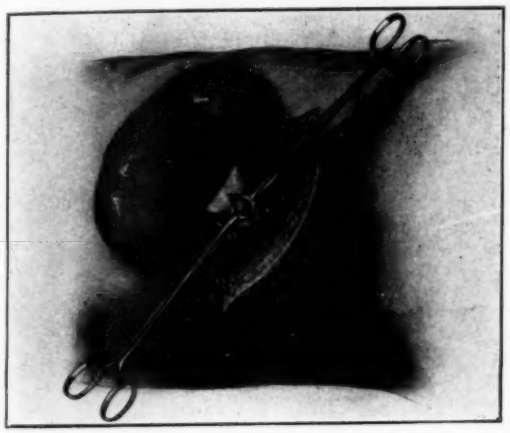
CASE II
Radiogram showing shadow of calculus in pelvis of kidney

way of symptoms until organisms enter and infection takes place. After that the stone rapidly increases in size from the deposit of concentric layers of urinary salts, and the kidney itself becomes the seat of a suppurative nephritis, and is eventually destroyed as to function and structure. If a stone can be discovered before infection takes place, and removed by pyelotomy, the patient is fortunate in escaping frequent attacks of renal pain and the impairment of the general health from the toxemia from the absorption from a chronic suppurating kidney. Apart from these considerations, the technical difficulties of operation and risk to life in-

crease if we have to do a difficult nephrectomy or a safe and rapid pyelotomy.

The patient made an uneventful recovery and left the hospital June 10, 1927, with a small fistula through which a small quantity of urine passed until it finally closed a few weeks later.

The decapsulation and fixation of the kidney in these



CASE II
Posterior Pyelo-lithotomy incision in pelvis of kidney

cases of removal of stone is an important point in the technique of the operation. In nearly all cases of long standing renal calculus, the true capsule of the kidney is thickened, which prevents expansion of the kidney, and the kidney is also usually more or less prolapsed, thus causing a kind of obstruction in the ureter. Unless the kidney pelvis empties itself entirely, residual urine accumulates and a stone is liable to form again. In order to prevent a recurrence, decapsulation of the kidney, fixation and straightening of the ureter, giving good drainage to the kidney pelvis, is a matter of prime importance. Of the various methods of fixation, the one generally used by the writer is that devised by Rehn, which is both rapid and effective. It consists in anchoring the kidney by passing a curved needle through the lower pole of the kidney and the muscle and the 12th rib. Adhesions form between the muscles of the back and the decapsulated kidney, the kidney is raised up in its proper place, and the ureter is straightened out, thus affording good drainage for the pelvis of the kidney through the ureter.

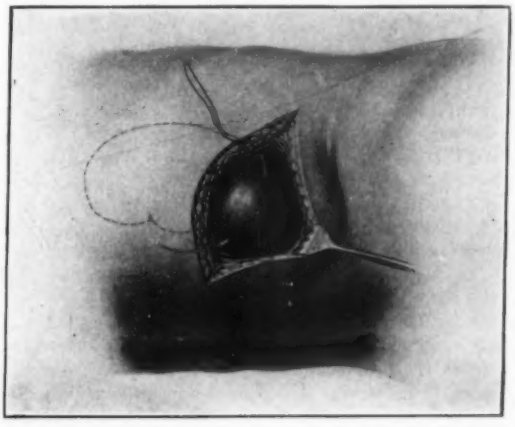
Papilloma of the Bladder

From the symptoms it is in no way possible to determine the source of the hemorrhage without a cystoscopic examination of the bladder. When that organ is found to be healthy, an investigation of the kidneys by ureteral catheterization, functional tests, radiograms and pyelograms is needed to establish the diagnosis. In the following case an examination of the bladder with the cystoscope was sufficient for the diagnosis, as the source of the hemorrhage was easily seen.

J. B. male, aged 45. Came into St. Peters Hospital, stating that he had a trace of hematuria seven months previously, and another four months ago. Four weeks ago he had free hemorrhage from the bladder, lasting all day. Since that time he has had a small amount of blood frequently. Cystoscopic examination showed a tumor the size of a small brussels sprout just above the left ureter, and from its appearance we judged it to be a benign papilloma. Before the application of the high frequency current to such tumors, as first suggested by Edwin Bier, the only practical way of removing them was through a suprapubic cystotomy. Although Max Nitze with his remarkable technical skill was in the habit of removing papillomata with his operating cystoscope, which was fitted with a wire snare and a cautery point for cauterizing the base after the tumor had been snared off. On account of the large size of the tumor, we decided that it was better for the patient to have an open operation for its removal rather than undergo the discomfort of frequent attempts at fulguration which might perhaps in the end not succeed in removing the tumor. On June 29, 1927, we opened the bladder suprapubically, using the transverse incision of the bladder wall which gives an excellent exposure of the interior of the bladder. The tumor was grasped by the Zukkerkandl tumor forceps. Tension was made on the pedicle which was thin and easily burned through with the electric cautery, and the base was thoroughly cauterized. One disadvantage of an open operation has always been the danger of brushing off cells during manipulation from the tumor, which were implanted in various locations in the bladder, and would subsequently develop into secondary tumors. The Zukkerkandl forceps, being shaped like a pair of sugar tongs, encloses the tumor completely during operation, thus obviating entirely the danger of implantations of diseased cells.

Dr. Feinblatt, the pathologist, found that the tumor was a benign papilloma.

The patient made a smooth recovery, and cystoscopic



Rehn's method of kidney fixation
CASE II

examination three months after operation showed no trace of tumor in the bladder.

32 Schermerhorn Street.

County Health Work

Charles O'H. Laughinghouse, Raleigh, N. C. (*Journal A. M. A.*, Dec. 24, 1927), suggests that medical education should devise ways and means to prepare physicians in the future to practice the specialty of public health more capably. The office nurse for the rural physician should be popularized. Boards of health could add nothing to their present plan of prevention of disease which would show more immediate and more satisfactory results than the institution of training schools for nurses whose specialty would be to give assistance to the physicians in rural districts who are practicing general medicine. Extension courses by medical colleges for the purpose of bringing special training to the very doors of the rural physicians themselves in isolated communities would prove of untold benefit in the development of county health work. Lectures and clinics by itinerant teachers in the small towns and country communities to which the local profession could be invited and in which the early diagnosis and prevention of disease could be taught and stressed would mean much to the furtherance of county health work and to the attractiveness and safety of rural life.

The Psychoneuroses*

Their Diagnostic Difficulties and Therapeutic Possibilities

J. C. YASKIN, M.D.,

INSTRUCTOR OF NEUROLOGY, GRADUATE SCHOOL OF MEDICINE, UNIVERSITY OF PENNSYLVANIA,
Philadelphia, Pa.

Psychoneurotics are *persona non grata* in medical practice. They tire and exhaust the general practitioner, and are the stumbling block of all specialists. When all ordinary methods of investigation fail to disclose definite lesions and when special laboratory and clinical studies do not reveal abnormal functions, the cases are generally dumped into the garbage pail labeled "psychoneurosis," where they are supposed to rot. Again when orthodox treatment fails and the sufferer goes through the gamut of specialists who subject him to all sorts of diagnostic and therapeutic refinements, he is again relegated to the detestable o. b. clan of the psychoneuroses. Thus every community has its share of these sufferers who present serious medical and social problems. It is, I believe, quite accurate to assume that the psychoneuroses incapacitate and invalid a greater number of the population than do the true insanities (psychoses), and are the cause of greater unhappiness than any one group of diseases. They are frequently the most serious problem to social service agencies. Of all diseases, they are probably the most neglected and this because they are not clearly understood.

Before discussing the diagnostic difficulties, it would be well to arrive at some clear conception as to the nature and basis of the psychoneuroses. I believe that most physicians sooner or later come to the conclusion that anatomic pathology and abnormal physiology fail to account for a great many disease states in the human organism. Even the most firm materialists, who believe that every abnormal condition can be accounted for by some discernible anatomic or physiologic deviation, come very frequently to the painful and to them unsatisfactory conclusion that the patient suffers by reason of incorrect thinking and distorted feeling, and that this either causes the disease or else so interferes with function that recovery from the underlying organic condition is either impossible or incomplete. As a matter of fact, it is this mental distortion and especially the abnormal feeling tone that is at the basis of all the true psychoneuroses. The tonsils may be removed, teeth may be sacrificed, sinuses punctured, prostate massaged, appendix and appendages removed, gall-bladder drained and colon washed and still the patient, after the novelty of the procedure has worn off, returns to his original state, and this because of the mental attitude.

It is obvious that since the psychoneuroses are dependent upon the abnormality of the mental and especially emotional functions, their conception could not have occurred, phylogenetically speaking, before development of the human mind. The development of the human mind, in the final analysis, is dependent upon the interreaction of the organism and the environment. These interreactions go to make the so-called character or personality of an individual, and the character of races and nations. These traits are handed down in the individual by heredity in the form of instincts and are modified by his environment. As a corollary, it follows that both our inheritance and our training and external conditions determine our normal or abnormal development.

Our conception of psychoneurotics to-day reveals the fact that these patients have an individual predisposition which is called the neurotic make-up with which they are born. This neurotic make-up consists of an abnormal susceptibility to stimuli so that the individual has an abnormal way of perceiving or perhaps of misperceiving the multitude of physiological experiences of which we are normally unconscious. As a result of this, a great many physiological experiences are converted into subjective symptoms which cannot be correlated in our usual diagnostic reasoning. Again, these patients are frequently unable to correlate properly the outer and inner world in their experiences and observations and by reason of their impressionability convert them into symptoms and pseudo-signs. The psychoneurotic may be compared to an organism whose numerous systems (and especially the nervous) are highly exposed to stimulation by reason of lack of insulation so that short circuits and various other disturbances result from ordinary stimulation from without or within.

I shall emphasize that the neurotic make-up is inherited. The war has amply demonstrated that stress and strain do not in themselves produce psychoneurosis in the abnormal individual and that neurotic symptoms of exhaustive origin are readily amenable to treatment with comparatively rapid and complete recovery, in a previously normal individual. The psychoneurotic is born, but he can be made more or less of a successful unit in the community dependent upon his environmental surroundings. Every physician is familiar with the neurotic child and its abnormal behaviour; the various bad habits, the caprices regarding diet, the over-sensitiveness and emotional outbreaks, the invention of physical or nervous symptoms to escape duties, etc. Comparatively few, however, understand that instincts and later sentiments can be modulated and controlled so that psychoneuroses can be avoided later in life. With a given hereditary fund the character and its associated neurotic disorders depend upon three environmental factors: (1) the physical (2) the psychic and (3) the social. The physical is well looked after by prophylactic medicine and hygiene as is well known to everyone. The psychic and social ends are poorly understood both by the public and our learned profession; the all important relations of the family, the neighbor, the schools and later the books, plays, movies, etc., lead to the abnormal development of instincts and the formation of injurious sentiments, and lay the morbid foundation of psychoneuroses in the form of conflicts and maladjustments.

Let us remember then that both heredity and environment are important factors in the causation of the psychoneuroses but whereas the former is always wished upon us the latter, i.e., the environment, can be controlled to a certain extent for prophylactic and therapeutic purposes. The clinical manifestations of the several forms of psychoneuroses are all too familiar to require detailed description. It may be well to mention briefly the salient features of each, always bearing in mind, however, three points: one, that a psychoneu-

* Read before the Southeast Medical Society, Philadelphia, Pa., Feb. 3, 1927.

rosis presupposes that the individual has an abnormal neurotic make-up; two, that the symptoms may have been precipitated by some underlying or associated organic condition, and three, that the mental life of the psychoneurotic and especially his feeling tone and his reaction to psychogenic causes is the final determinant in the disease.

For practical purposes the psychoneuroses can be divided into four groups:

(1) Neurasthenia.
(2) Anxiety States.
(3) Hysteria.
(4) Psychasthenia.

Neurasthenia is the most common and the most troublesome of these. It is a syndrome rather than a disease and consists of abnormal mental attitudes and mental reactions precipitated by a variety of causes. The most common symptoms of neurasthenia are: muscular fatiguability without any paralysis, fine tremors, headaches, backaches, all sorts of neuralgic pains, dyspepsia, constipation with visceroptosis, cardiac palpitations, vasomotor instability, sexual insufficiencies, mental fatiguability, inability to concentrate, emotional depression with irritability and insomnia. One at once perceives that this can resemble almost anything in the realm of medicine and for this reason neurasthenia may be classified as primary or true, and secondary or pseudo-neurasthenia. Before postulating a diagnosis of true neurasthenia, one should rule out all underlying or associated organic disease and this implies that a neurologist should also be an astute internist and should resort to the assistance of the various specialties. The following points are of importance in consideration of the diagnosis of neurasthenia:

(a) The symptoms are variable both as to distribution and intensity, and do not coincide with the usual objective findings. Furthermore, the manifest emotional reactions of the patient, are often out of all proportion to the complaints.

(b) Primary neurasthenia seldom begins after middle life, and inherited neurasthenia usually becomes fruitful at adolescence.

(c) Neurasthenic symptoms and reactions develop as the result of definite organic disorders. Somatic conditions causing neurasthenic symptoms are well known. These include tuberculosis, the nephritides, and other metabolic imbalances, the organic gastro-intestinal conditions, and the focal infections. I shall put hyperthyroidism and other types of endocrine imbalance and syphilis of the nervous system also in this group. Every case of neurasthenia should have a careful endocrine survey, at least a basal metabolic study, and it is well to remember that neurosyphilis may exist with a negative blood Wasserman but with definite and helpful findings in the spinal fluid. One must never forget that neurasthenia may be the beginning of a grave mental disease, i.e., the onset of a psychosis.

Psychogenic or Mental Cause: When careful and repeated examinations and various laboratory investigations fail to account for a secondary neurasthenia one is prepared to regard the patient as a true neurasthenic and then comes the work of a neurologist in making what may be termed the psychological survey of the case. The purpose of this survey is to arrive at the psychogenic or mental cause of the disease to be utilized for therapeutic purpose. The survey is a hard and tedious procedure and, like most things that are worth while is time consuming. The scheme of investigation applies generally to all the psychoneuroses and you will be spared the pain of repetition.

The psychological survey should include:

(1) A careful family history with reference to mental and nervous diseases, and including an account of social adaptability and economic success. One should get an evaluation of heritage.

(2) A personal history commencing with prenatal influences, the course of development from the earliest childhood including birth, early disposition and liability to convulsions and fits of temper; and the age at which the child learned to walk, talk and control the sphincters is often of vital clinical importance. Obtain a history of school period including the interest in and results of instruction. Go into the period of puberty, emancipation from home and development of social instincts; the disposition and trend of emotional life, the amount of self reliance, self direction; and determine the efficiency in what was undertaken and especially the perseverance in positions and occupations. Inquire into sexual and social irregularities, the judgment shown in marriage or the reasons for unmarried life. Try to ascertain the balance of ambition and efficiency, and the general standing in the world. The purpose of all these investigations is to get a clear understanding of the patient's personality.

(3) Determine the existence of exogenous or environmental factors, such as unbalancing occupations, sexual inflections, lack of home, bad company, abnormal interest in religion and occult sciences; business worries, emotional shocks and other possible conflicts. In brief, one must make a complete study of the patient's environmental factors.

(4) Studying the ultimate issues presented in a given psychoneurosis, the neurologist has to take into account: (a) the personality or constitutional make-up, (b) the factors of environment or as Adolph Meyer termed it, the "Situation," and (c) the psychological resultant or the composite dynamic effect of these two components, which is called the reaction.

If one can arrive at a clear understanding of the mechanism of the reaction in a case, then he has overcome the serious diagnostic difficulty in the psychoneurotic.

Anxiety Neurosis: This malady is allied closely to neurasthenia and manifests itself by occurring in paroxysms of terror and emotional anguish, palpitation, disordered breathing, sweating and tremors; these outbreaks commonly occur at night. There is considerable disturbance of sleep and loss of weight associated with gastro-intestinal symptoms. A careful mental exploration reveals as a causative factor some previous emotional shock or strain which the patient has been trying to suppress. Coitus interruptus is a relatively frequent cause.

Hysteria: Hysteria is a psychical condition which takes its origin either in an atmosphere of emotion or in one of bodily discomfort or expected discomfort and which generally is manifested by symptoms which can be reproduced by suggestion, and which can be made to disappear again by persuasion and suggestion. A fundamental characteristic of hysteria is apparent loss of memory (amnesia) for certain incidents in the individual's life. These memories, however, exist in the subconscious stream of thoughts, like a sunken wreck in a channel causing interference in the current of the patient's mental life and exciting the various manifestations which we recognize as hysterical symptoms. Another essential feature of hysteria is defective emotional control. This resembles that observed in infancy.

The hysterical individual is also very selfish and egocentric and by a mechanism of mental isolation withdraws from everything that is distressing or distasteful. One must remember to keep in mind the very important

fact, that hysterical symptoms represent an attempt to escape from an intolerable situation or to obtain an end otherwise unattainable. This is an important point and must be strongly stressed. We are familiar with the crying and laughing emotionalism of the hysteric, with the woman who mobilizes the sympathy of her husband and friends and possibly procures a fur coat by throwing a fit, or with the all too familiar traumatic hysteria suggested by the possibility of compensation, or the development of a vaginismus when pregnancy is feared, or with the aphonias when speech is dreaded. The motive and mechanism of some hysterical conditions is quite apparent while in others it is extremely difficult to fathom. When one considers that hysteria includes such diversity of symptoms and syndromes as anesthesias, parathesias, hyperesthesias, speech disturbances, blindness, loss of smell, paralysis, contractures, convulsions, episodic phenomena, psychic and visceral disturbances, and in fact, symptoms mimicing everything including pregnancy, it becomes apparent that an etiologic diagnosis may be very difficult. In considering the diagnosis the following practical points deserve emphasis:

(1) A very careful physical and laboratory investigation must always be made to rule out organic disease. In this connection it will be well to remember that organic disease and especially neurosyphilis may coexist with hysteria.

(2) The rather sudden onset and mobility of the symptoms, their incompatibility with any organic disease and above all, their sensitiveness to suggestion. The foregoing data are available through an organic neurologic investigation.

(3) A careful psychogenic survey as outlined under neurasthenia. This may require a great many lengthy examinations and when unproductive one has to resort to Freud's psychoanalytic methods of dream analysis. As you know, Freud and his followers believe that at the bottom of every neurosis and especially hysteria is some interference with the normal sexual life of the patient. It is interesting to note that Freud's theory makes the third definite attempt to connect hysteria with sexual organs; the Greeks believed that hysteria was due to migration of the uterus and even recently it was held that hysteria was a reflex phenomenon of disease uterus and adnexa, subjecting these organs to mutilating operations.

(4) Clinically, it is important to remember that in epileptic spells, with or without convulsions, there is complete loss of consciousness, while in hysterical episodes there will always be islands of memory which can be awakened by careful investigation. We must also bear in mind that hysterical syndromes may be the forerunners of the graver psychosis: and especially dementia praecox.

Psychasthenia: Psychasthenia has very little organic background. It is manifested by timidity, indecision, morbid doubts and scruples, apprehensions, and all sorts of obsessions which the subject recognizes as abnormal or absurd. Some are afraid of being in crowds, others in closed places and trains. Often the lack of inhibition results in tics and impulsive acts. This category includes the dipsomaniacs, kleptomaniacs, pyromaniacs, etc. The patient is under constant worry and apprehension, but mentally clear.

The diagnostic difficulty in these cases lies in determining the psychogenic facts which usually date to early childhood and are very difficult to fathom.

Therapeutic Possibilities: Some months ago a friend of mine who has a passion for draining gall-bladders walked into my office and puffing at his cigar greeted me by saying: "What do you do for your patients anyway?" I should not be surprised if he expressed a thought of a great many other physicians. An attempt will here be made briefly to answer this question, and some general basic principles will be enumerated which are of practical importance in the therapeusis of all psychoneuroses.

If we grant that psychoneurotics have a definite neuropathic constitution then treatment or prophylaxis must begin in childhood. A child born of tuberculous parents receives very careful prophylactic supervision, for both the public and the medical profession are well aware of its potential dangers. Such is not the case with offspring of neurotic parents for neither the public nor the profession are awake as to its dangers. And yet our greatest hope in the treatment of psychoneuroses lies in the proper training of these subjects. It is in early life that bad habits are formed which lead later in life to the more serious nervous disorders. In infancy the regularity of feeding, proper clothing and fresh air are sufficiently stressed by the physician. One should also insist, however, on the regularity of mental and physical habits, and obedience, with no excessive fondling by over solicitous mothers. In childhood the mind is most impressionable and plastic and the child is imitative. Parents and other members of the family must understand that their actions, moods, complaints, etc., leave an indelible impression upon the child and that they should so modify their mode of living that their children are not made to suffer. In addition to good regular habits, the child should be taught obedience, self denial and responsibility. When encouragement and rewards fail, judicious punishment may have to be resorted to. Caprices regarding diet are often traceable to attitudes about food on the part of the parents and incidentally in turn traceable to their early childhood. The parents should set a proper example and the child will yield satisfactory results. Not only in matters pertaining to food but also in temper, bathing, etc. The parents must be consistent and they must do good team work in their policy and attitude to the child. Outbreaks of temper must be curbed and the child not permitted to gain its wishes or escape duties by emotional outbreaks or by invention of physical or nervous symptoms. The children's playmates must be carefully chosen as they too are a source of danger; the problem of the only child is especially serious.

It is important that parents should gain the confidence of their children and that they be given sex instruction by the parents instead of obtaining it from other sources. While affective friendliness and understanding is very desirable, especially in early childhood, over-attachment of parents and children is to be guarded against and the children should be taught gradually to gain their independence by spreading their affection and interests to those outside of the family circle. Parents should never incur the hatred of children, and the child must never be made to feel inferior, etc.

During adolescence there are special problems of day dreaming which require special attention on the part of parents.

Now in a given psychoneurotic child without manifest physical difficulty the neurosis is traceable either to a family situation, bad associations outside of the home or some special conflict. The examiner must gain the confidence of the child and by personal influence and persuasion impress upon him certain corrective measures. The parents are instructed as to handling of the individual problem and the school informed of the special needs of the child. Often, however, owing to condition of the home or of associations with gangs it be-

comes necessary to remove the child from the home and place him in a foster home or, in case of physical disability, in a hospital or sanatorium. Let me assure you that very gratifying results in this field are being obtained.

Adults: The following general points are regarded as important in the therapeusis of adult psychoneurotics.

(1) The physician who treats psychoneurotics must have the insight and patience to handle these troublesome cases. He must be able to see the patient's point of view and to command his confidence and respect. He must show a real interest in the patient's suffering and at no time say there is nothing the matter with him. He must give an intelligent explanation of the malady and repeated assurance of recovery.

(2) To gain the patient's confidence the doctor must show a definite interest in his symptoms and establish a friendly relationship. This may mean several examinations or hospitalizations.

(3) When some minor physical abnormality is detected one must be very cautious in assigning to it an etiological rôle for it is often easy to substitute an already existent pathological idea by another equally bad.

(4) One must exercise a great deal of judgment in advising operations in psychoneurotics. Personally, I am convinced that a great deal of harm is done to these cases by avoidable surgery. When an operation is carried out, the postoperative care is of utmost importance for a long period of time.

(5) Whatever course of treatment is followed, the direction must be definite, accurate, positive, and must be adhered to, which requires a great deal of firmness, patience and optimism on the part of the physician.

The method employed in the treatment of any given patient depends upon several factors, but especially upon the severity of the case and financial circumstances.

Mild or moderately severe cases can be satisfactorily treated at home. Some moderately severe cases with physical debility or considerable mental and physical restlessness should be put to bed for a week or two at the outset of the treatment. A complete physical examination and routine laboratory analysis is useful not only for diagnostic but also for therapeutic purposes. Many of you have cured cases of psychoneurosis having gastric symptoms with an ordinary lavage intended for diagnostic purposes. And many bile drainages are useful for the same reason. The next step is to get a clear conception of the patient's attitude to his home, and immediate family and friends, his diversions, rest and especially his occupation. Delve into minute details in the course of repeated examinations and this will not only give you a cross and longitudinal section of the patient's mind but will also establish that confidence which is necessary for success in the treatment of these cases. Having procured a clear idea of the past and present mental and emotional status of the patients and having gained their confidence, begin rearranging their mode of living and especially their thinking and feeling. Very often a frank explanation to the patient of his malady with repeated assurance of recovery will alleviate a great many of his symptoms. Care must always be taken in using such terms as "physical" or "mental" and under no circumstances must the patient be informed that there is nothing the matter with him. It may become necessary to take in other members of the family and give them suggestions. A distasteful occupation is a common immediate cause of psychoneuroses and is frequently correctable with proper advice. One must get a kick out of one's work or sooner or later break down. Often married people live a dull existence and a little intelligent education goes a long way to correct the situation by creating new and wholesome interests. Reeducation or the remodeling of the patient's mental laboratory is as absolutely necessary in psychotherapy as fresh air is in pneumonia. And like other forms of education it is a painstaking and time consuming process.

Sometimes a short vacation or even continuance of the ordinary occupation with a diminished amount of work plus increased rest and diversion will suffice to straighten them out. At times some traveling with outdoor life and change of scenery will accomplish a great deal. Women can carry out at home a modified rest cure. It is sometimes well to give these patients a written schedule outlining the ways in which all the hours of the day are to be used. It is superfluous to mention that special attention is to be paid to rest, diet, hydrotherapy, exercise and other hygienic measures as well as removal of foci of infection and symptomatic treatment of such symptoms as insomnia, restlessness, headache, palpitation, etc. Acute hysteric phenomena such as aphonias and paralysis can often be relieved by powerful suggestion such as electricity, anesthesia, hypnotism and many other means. These artificial methods should always be followed by a careful mental anaysis and correction of the underlying psychic difficulties.

Severe cases should always be hospitalized and given the Weir Mitchell Rest Cure or some modification of this method dependent upon the patient's financial status. The basis of the rest cure depends upon the combined use of rest, isolation, overfeeding, massage and electricity.

Time does not permit us to give details of the method but suffice it is to say that it is based on good physiological reasoning and in addition utilizes all those means of therapy which are usually neglected by the profession and which lead to creation of tribes known as osteopaths, chiropractors, Christian Scientists, etc., The rest cure also enables the neurologist to make a good analysis of the mental and social situation, and in a gradual way to make adjustments. The rest and psychic purgation on the part of the patient combined with understanding, sympathy and encouragement on the part of the physician gradually leads in the patient to the more stimulating atmosphere of self confidence, independence, hope, initiative and some constructive, active program of life. This again is a problem of reeducation assisted whenever necessary by persuasion and suggestion.

It is well to remember that the general hospital is not fitted for rest cures. For this purpose one needs the quiet of specially equipped places, well trained personnel, and an atmosphere of successful psychotherapy.

Some cases are harmed by rest cures, especially some cases of hysteria and psychasthenia. These cases are often resistant to all other methods of treatment so far outlined and it may be well to try the psychoanalytic approach the Freud. This is a highly specialized method, involving dream analysis, association of words, etc., and should be used only by those who are well trained in this branch of psychology.

In closing allow me to reiterate that in the diagnosis and treatment of psychoneurotics, one must have a broad understanding, not only of such purely medical subjects as pathology, abnormal physiology and biochem-abnormal psychology, sociology and allied subjects. The neuropsychiatrist must not only be a scientist and doctor, but must in a measure revert to his archaic function of being a priest as well.

1832 Spruce Street,

Dysuria Following Ephedrine Therapy

L. NAPOLEON BOSTON, A.M., M.D.

PROFESSOR OF PHYSICAL DIAGNOSIS, (GRADUATE SCHOOL), UNIVERSITY OF PENNSYLVANIA; PHYSICIAN TO PHILADELPHIA GENERAL HOSPITAL,

Philadelphia, Pa.

It was in May 1926 that my attention was forcibly called to the uses of Ma Huang (*Ephedra Vulgaris*). Dr. Rudolf and Dr. Graham's (1) paper presented before the American Therapeutic Society, at Philadelphia, gave in detail the physiologic action of this drug.

I at once took measures to equip myself with the various preparations of ephedrine, the sulphate being the first one obtainable. The fact that ephedrine possessed a therapeutic value quite analogous to that of adrenalin (epinephrin) caused me to prescribe its various preparations in practically every instance where the physiologic effect of adrenalin, prolonged over a period of several hours, was indicated.

Among the patients that were given preparations of *ephedrine vulgaris* in fairly large doses, six male subjects experienced difficulty in voiding urine in from 12 to 24 hours after receiving the first dose of the drug. In event of the drug being continued the condition advanced from bad to worse, until catheterization became necessary. Withdrawal of the drug was followed by an appreciable improvement within the course of 6 to 10 hours, and by the end of 48 hours each case was voiding urine normally.

The urine from four of these patients contained a small amount of albumin after the administration of ephedrine. In two of the cases the urine was not obtained after taking the drug, but in four cases where the urine was studied, albumin and both red and white blood cells were present. Casts were not observed.

Althausen and Schumacher (2) in their admirable report mention observation on 15 patients, several of which showed red blood cells and casts in the urine after ephedrine therapy. Starr (3) has discussed at length the production of albuminuria by renal vasoconstriction in both animals and man. The observation of Althausen and Schumacher, and those of Starr, deal extensively with alterations in the blood pressure, the quantity of urine excreted and the frequency with which urine is voided, but I do not find mention of dysuria as the result of ephedrine therapy.

The previously cited writers (2) in their mention of the untoward effects of ephedrine, which occurs in 30 per cent. of all cases, mention diuresis but do not state the percentage of instances where urinary phenomena was present. It is further stated that several undesirable symptoms occur in patients who have received epinephrin medication up to the date they are given ephedrine. I have not found special mention of dysuria in connection with the administration of ephedrine and in the 6 cases herein cited dysuria has been such an outstanding feature that it has prompted me to offer this report.

The patient's first annoyance was that the flow of urine was retarded, followed within a few seconds by a small stream. There was a sense of discomfort in the region of the bladder for several minutes before micturition. The maximum degree of pain often immediately antedated urination and gradually abated within 5 to 30 minutes. Slight discomfort was continuously present in four of the reported cases.

Cases

M. S. H., age 54. Has had a moderate degree of albumin in his urine for the past two years. There was also present dyspena on exertion and a sense of physical depression. Contracted an acute cold Sept. 10, 1927, followed which he was given a prescription containing 1½ grains of ephedrine sulphate, to be taken every four hours. After the third dose the patient noted that he did not empty his bladder as freely as was his usual custom. Two hours later it was with considerable difficulty that he was able to empty his bladder. The following morning, approximately 24 hours from the time that treatment was begun, it was found necessary to pass a small rubber catheter and remove 12 ounces of urine. The medicine was withdrawn and further catheterization was not necessary. The patient experienced a sense of discomfort in the region of the bladder for at least 24 hours after the use of the drug was discontinued; after which he remained normal.

Mr. R. F., age 56. Contracted an acute cold in October, 1927. He was given a prescription containing ½ dram of fluid extract of ephedra. Two doses were taken, one at 6 P. M. and another at 10 P. M. Upon retiring at 11:30 P. M. he noticed slight interference with the flow of urine. The patient was awakened at 3 A. M. the result of distress in the region of the bladder. At this time it was with great difficulty that he was able to pass a small quantity of urine and the vesical distress was sufficiently great to prevent him from sleeping. It was 24 hours after the first dose of the drug that he experienced his usual liberal flow of urine.

Dr. E., age 56. Subject to an attack of asthma each August, which ordinarily lasts from three to five weeks. The third day of his attack he began taking ephedrine sulphate in capsules, 1½ grains, every four hours; together with a local application of epinephrin to the nasal mucosa. After the fourth dose he noticed some difficulty in urinating. He continued the drug with a marked relief of his asthmatic symptoms, but following the eighth dose he experienced discomfort and even pain in the region of the bladder. During the night it was found necessary to use a catheter. I saw him the following day, changed his treatment, withdrawing the ephedrine, and while he experienced some abnormal sensations in the region of the bladder, urination was normal 24 hours after the withdrawal of the drug.

Mr. G., age 65. Suffered from periodic attacks of coryza for several years, which attacks have been greatly relieved by the administration of epinephrin, hypodermically. He was given a prescription containing ½ dram of fluid extract of ephedra, to be taken every 3 hours. After the fifth dose he noticed an abnormal sensation in the suprapubic region and perineum. Following the eighth dose he reported that it was with great difficulty that he was able to void urine. He presented the same symptoms described in case number one. Ephedrine was withdrawn and he returned to normal within the next 24 hours.

(1) Notes on Sulphate of Ephedrine, *Trans. Amer. Ther. Soc.*, 1926-7, p. 143.
(2) *Arch. Int. Med.*, Dec. 15, 1927.
(3) Starr, The Production of Albuminuria by Renal Vasoconstriction in Animals and in Man, *Jour. Exper. Med.*, Jan., 1926, p. 31.

Robert G., age 29. Has had a questionable tuberculous involvement. The cough has always been an annoying feature. He was given a prescription containing ephedrine sulphate ¾ grains, codeine sulphate ¼ grain and strychnine sulphate 1-48 grain. After the drug had been continued for 3 doses, he experienced difficulty in voiding urine and a sense of discomfort in the region of the bladder. Urination became so difficult that he was compelled to discontinue the treatment during the fourth day. He stated that 24 hours later the bladder condition had returned to normal.

A. X., age 50. Developed an acute attack of hay fever in August, 1927. Ephedrine sulphate was given in ¾ grain doses every 6 hours for a period of two days with practically no effect. The patient was then given fluid extract of ephedra, fluid dram i, t. i. d., in connection with ¼ grain of codeine sulphate. Vesical discomfort was noted after the third dose of fluid extract of ephedra. It appeared in the sense of a weight in the bladder and an indescribable sensation over the lower abdomen. After the fourth dose it was noticed that urination was not only difficult, but that it required a long time to empty the bladder and that the functions of the sphincter were apparently diminished. Vesical pain increased for six hours after the last dose of the drug. All annoying symptoms gradually disappeared following withdrawal of the drug.

Careful questioning of all patients herein cited failed to reveal a history of any difficulty in the voiding of urine prior to the taking of ephedrine. I am unable to account for the symptom except that it had to do with the oral administration of the preparations of ephedrine. I have no explanations whatever to offer for the actual mechanism of this phenomenon and merely make this brief report in order that those who have facilities for studying the physiologic action of drugs may give this subject definite scientific study.

The Rationale of the Newer Medicine

MARK H. SMITH, M.D.

Los Angeles, California

(Concluded from page 79, March issue)

(Copyright applied for)

XXV.

Kidney function expresses a direct response to the effects of physical and chemical reaction.

The renal organs regulate blood composition; the tubules, as defensive barriers, sift waste for economic need.

The extensive maze of minutely sized capillaries provides a network for basing functional activity. Through specific properties which originate in these capillary minutiae, the kidneys prove to be liabilities when subjected to the immediate effects of allergic shock.

Similar in function to, with a pavement resembling that of the pulmonic alveoli, kidney tubules protect the organic system through relatively broad areas of epithelial surface.

Organic defense, and of the blood in particular, as performed by kidney function, is held within the local factors of excretion and selective absorption. A specific response is expressed to the presence of substances which are excreted by glomerular activity. This furnishes one of the striking evidences of the existence of an organic complement, which binds compounds for cellular use, and becomes inactivated for their release.

Substances filtered through glomerular walls are surfaced upon the epithelium of tubules. The function of acceptance, by reabsorption, of needful substances for systemic requirement, permits organic cells to express discretion in refusal of such waste as may endanger the general organism.

Unacceptable compounds may be of a nature incapable of undergoing further synthetic resolution, useless for further ionic display, or yet, while of appropriate structure, be in excessive supply for systemic tolerance.

The day presents a new regard for renal function. No longer does the appearance of albumin in the urinary secretion specify a distinct pathology, nor alone preface a diagnostic condemnation in "nephritis." Rather, such renal manifestation may confer a benefit through the divergence of products which the organism must waste in self protection.

This waste may be a proteid form that cannot be used to cell advantage, or evince loss of some specific complement, so being nonreservable by the organic cluster. Or, in representing "sensitivity," seemingly harmless or useful proteids are wasted for cellular protection. Forms of waste also occur ensuing upon defensive requirements of the organism, as in the absorption of inflammatory exudate or devitalized tissue. Transfer of this waste through the channel of kidney excretion is a natural drainage method.

Allergic effects are often locally fixed. Renal and other organs dense in capillary supply regularly show these deposits.

Through its property of eliminating nitrogen, the kidney function has been used, with rather inaccurate results, for computing the efficiency of metabolic activity. Through this determination, the ray of investigation has been turned upon the effects of protein and non-protein dietary upon the renal function.

Results from the study of dietary influence upon renal pathology have proven rather disappointing, due to the fact that the measure of allergic shock upon the organism has not been sufficiently applied.

The subject of pathologic kidney has exacted voluminous literature. It has designated a variety of differing afflictions, a dearth in etiologic factors, and has served to discredit methods for remedial influence.

The direction of renal study to an appreciation of allergic effects has been responsible for creating a new and concise classification of kidney disorders.

Formerly, non-recognition of allergic disturbance gave but vague appraisal for kidney values. Attempt was made to measure interstitial nephritis by evidences of nitrogen retention, while parenchymatous nephritis served to signify the retention of chlorides. Differential diagnosis for renal or cardiac uremia depended upon the merits of nitrogen retention, with little recognition of the provoking factors of circulatory failure. Today, we realize that collapse resulting from infection arises

in vascular defect with cardiac influence secondary thereto.

Through the awakened interest in lesions of allergic offence, the trend of medicine has been toward simplification, and clearness of vision sees a foundation for much that was hidden but a short time ago. This carries no discredit for pathology, but a new keenness in perception summons evidence involving natural processes, and responses arising in the effects of environment are seen to act as determinants for organic change.

XXVI

Facilitation of renal study demands separate consideration for certain vital influences.

Allergic pathology which is not directly implicated, p H concentration, calcium influence in cellular response, related glandular activities as of thyroid, adrenals or similar responses, require separate inquiry. The autonomic and sympathetic systems, of direct interest, indicate other influences involved through proteid effects.

The influences from altered or defective forms of proteid, upon the renal structure, also involve certain phases of chemic activity, which can only be mentioned, in substance, as references to ionic display and colloidal states. These subjects and phases constitute too extensive a field for study to permit other than limited mention. These, however, govern allergic effects, which produce quite similar changes in the blood and tissues of the various animal species. A far more extensive application would include plant forms, which also respond to and evince allergic effects.

Within the domain of organic influence, factors related to nourishment become of direct concern. Summation of dietary effects from proteid influence, upon mankind, is attempted with but a few references.

The daily provision of five to six grams of nitrogen secures normal activity of the mental powers, favorable physical return and a satisfaction in well being. Better weight gain and control also attends this provision than in a greater supply of protein. This ratio, then, quite genuinely measures the real value in proteid supply.

The customary mixed diet conveys a daily provision of ten to sixteen grams of nitrogen. This amount far exceeds normal requirement, demanding unnecessary activity in metabolic response for producing a synthetic, harmless waste.

In general, mixed diet shows absorption of 92 per cent of the protein. This averages 98 per cent animal and 84 per cent vegetable protein absorption. The ratio varies little from fat absorption of 95 per cent animal and 90 per cent vegetable fat absorption.

Kober found the proportion of nine parts animal to seventy-one parts vegetable proteid productive of maximal efficiency in man. Disturbance of this ratio invited disorders of the urogenous system. This substantiates the general rule for balancing one part proteid supply, with six parts of combined fat and carbohydrate.

Urinary secretion is influenced by mixed diet. This increases the ratios of ammonia, creatinine, uric bases and undetermined nitrogen, but actually decreases the amounts of such, when compared with results from increased proteid diet.

Much of the nitrogen elimination from mixed diet is from proteid that only occurs in the circulation. For this reason, estimation of the amount of urea does not measure either the nitrogenous response nor the metabolic equation. Much nitrogen may be converted to urea and excreted before oxidation of the remaining proteid in the circulation occurs. Much of the proteid may be converted to waste and discharged through the kidney, without effect being shown by retained proteid forms which produce energy.

Food supply invokes intestinal response, initiating a process for proteid change and split proteid forms.

The existence of intestinal pathology, as that from the trauma of obstruction, institutes marked allergic shock. The reaction that ensues is paralleled in the damage from peritonitis, necrosis of duodenal structure from the allergic effect of cutaneous burns, or the effects of crushing of muscular substance with subsequent absorption of devitalized proteid. Less intensive, but none the less paralleling, are the infective sources for proteid.

Willis showed that toxine from split proteid produces the effect of acute allergic shock. Histologic change occurs in various organs; in especial, the intestines and kidneys are influenced. Blood alteration occurs, and there is a rise in non-protein nitrogen and a decrease in chlorides. Initial rise of p H concentration with reduction of alkali reserve is followed by late fall in concentration and rise in reserve.

This effect is that of histamine production, wherein toxic bodies appear to be carried through attachment to erythrocytes.

Duodenal pathology provides an absorption for toxic proteid which creates acute allergic change in the kidneys. Definite albuminuria, extravsation of erythrocytes and the appearance of casts depict a nephritic localization in proteid effect.

In the absence of definite renal pathology, increase in uric acid, albuminuria and the occasional appearance of casts indicate that an organic lesion exists, produced by some allergic cause.

Alimentary disturbance is an inciting factor for occasioning proteid detriment to the organism. Intestinal disorders increase the spatial permeability over normal enteric conditions. Gastro-enteric disturbances have universal effects in provoking allergic evidence.

Many contributary factors are engaged in alimentary defection. Renal involvement is really due to an issue that is derived from a primitive function. Originally the intestine combined the function now relegated to the colon and the process of excretory waste now conducted through the renal response.

Allergic shock readily pierces the defensive armor of kidney adjustment. Impaired immunity to the invasion of infective agents derived from intestinal sources is commonly observed, as in pyelitis due to the colon bacillus. This also serves to indicate the relative impairment in resistance to gastro-enteric influence.

Krogh found that smooth muscle fibres existed in the walls of the smallest capillaries. Through this structure, blood pressure diffuses oxygen, amino-acids and crystalloids such as glucose, for the requirements of structural expression.

Parenteral introduction of proteid creates reduction products, which have the same capillary effects that are shown by bacterial endotoxin and histamine.

Histamine primarily dilates the intestinal capillaries, but hepatic and renal capillaries show the same effects. Circular muscular fibres of the capillary wall become paralyzed, engorgement ensues, and the minute spaces, through which diffusion ordinarily occurs, dilate. This is to an extent that permits transudate of plasmic colloids. The condition is that of allergic shock, and when sufficiently extensive or continuous proves inimical to the continuance of life.

Cardiac involvement in allergic shock is upon the same basis. Paralytic inertia in the smooth muscle fibres of nourishing capillaries finds death ensuing from the allergic effect upon neuro-muscular structure.

Experimental injections of histamine in animals produced death from transudative bleeding from capillary walls, within tissue. This allergic severity is pat-

terned in certain, but fortunately rather rare, hemolytic diseases.

The effect climaxing in hemolysis, as allergic attack upon erythrocytes, is duplicated in the alteration of tubulous epithelium, as evidenced in the production of cast forms in nephritic pathology.

The injection of proteid subcutaneously increases elimination of nitrogen, in excess of the amount injected, for several days. Injection of amino-acids increases the nitrogen ratio of blood plasma. Both these phenomena demonstrate allergic effects.

Capillary caliber is altered by many influences. Dilatation follows organic activity, to indicate that this natural response is based upon allergic manifestation which arises in the stimulation of function.

Normally, only intestinal and hepatic capillaries permit penetration of colloids. Transudate of colloids elsewhere requires the occurrence of definite allergic cause.

Many substances, non-detrimental in themselves, occlude spaces in capillary walls. This suspends internal respiration, and, through physical effects, produces cellular trauma with some consequent organic change.

XXVII

Proteid is always colloidal. In its amphoteric qualities, it always responds to the domination of potential, as positive or negative. These properties are communicated to the blood, which is typically colloidal in character and amphoteric in property. The responsive qualities of the blood are based upon these characteristics. Acidity or alkalinity, or deviation in blood concentration from normal standard, is a reaction assumed in subjection to ionic dominance.

Colloids are always larger than atoms, being molecular. They express little osmotic pressure, only diffusing through the connivance of altered potential in structure, or as subjected to the variable effects which are engaged in the production of transudates.

Crystalloids, which are molecular, readily diffuse through capillary walls, because intravascular pressure exceeds perivascular resistance.

This pressure effect continues in the diffused substance, and being in excess of a virtual negative pressure in venules, allows transition of waste products of tissue oxidation to the venous circulation.

The normal blood vessel can only pick up substances in a very fine state of division. This translates the requirements for solubility and minutiæ of molecular form in waste to be excreted. This emergency is met in the provision of synthetic compounds through organic production. These answer to the requirements for normal occasions.

For the absorption of extravasated colloids, as from traumatic or allergic effect, lytic solution is required. A minute division of molecular structure must occur before ecchymotic evidence of the trauma disappears.

This event follows through possession of the faculty, shown by proteids, of movement to either pole, in acceptance of ionic manifestation, for production of normal rating.

The nucleus of the proteid always demonstrates its molecular activity. This is deposited in the amino-acid members of the molecular group.

Injecting sodium nucleinate causes reduced urinary volume with albuminuria. The effect is not of sufficient severity to create œdema or hematuria. However, the effect of the nucleinic element is not sufficiently allergic to produce definite pathology, for the product is not sufficiently alien, and only occurs in excessive provision.

The provocation of allergy increases the production of amino-acids. These, in turn, diminish the tonicity of capillaries through allergic effect upon smooth muscular substance.

An error in handling amino-acids, as improvident complement, allows allergic inductance. Potental of the capillaries diminishes and vaso-dilatation ensues.

XXVIII

The removal of amino-acids from proteid, called deaminization, is a procedure in the synthetic formation of waste.

Filtration of molecular substance is the essential function of the kidney. The renal function is maintained to a fair degree of activity when elimination of synthetic waste accompanies the increase in aqueous provision for the urine.

Some method for determining the presence of allergic states and the source of allergic manifestation is of great value in furnishing diagnostic grounds and guiding remedial benefit.

One method applies in estimating blood nitrogen, indicating the effects of proteid metabolism.

Increase in non-protein nitrogen in the blood does not invariably accompany advancing severity of nephritic disorders, but as a general rule, it does.

The increase of uric products in the blood, in an absence of renal disease, indicates proteid alteration from allergic effects.

Urea is the index of non-protein nitrogen. To be of reliable dependence, its estimation must be determined in the blood content, and considered in relation to altered p H concentration. This indicates a faulty disposal of proteid waste by kidney function.

Usually an excess in nitrogen retention by the blood signifies renal disturbance, temporary or permanent. Diagnostic benefit is available by this method. For instance, chronic passive congestion from cardiac defect does not cause high nitrogen retention, but chronic lead poisoning, a definite allergic state, so often associated with granular kidney, increases blood nitrogen.

The word, carbamide, in denoting urea or its compounds, signifies amino-acid change, an end-product of hydrolysis of proteid, from enzymotic activity.

The word, vitamine, signifying an unknown but essential element of the economy, again calls attention to amino-acid necessity.

Urea is one of the most diffusible substances known. One of the smallest of molecular forms, it is but little larger than an atom. It does not hydrate, absorb water, nor change its shape, and in consequence it is rapidly diffused within and without the body. Its elimination is closely associated with that of water, by the kidney.

Because of these properties, the excretion of urea closely approaches the diffusion of crystalloids, such as salts or elements.

Excretion of urea is dependent upon various factors, being related to the expression of various glandular structures.

McLean showed retention of urea is due to an increased resistance to its excretion.

The functional response of the kidney is related to some allergic prominence, and in such wise, the excretion of urea serves as an indicator.

Mosenthal found retention of nitrogen was favored by several factors. Increased proteid metabolism, defective fluidity of the blood, and forms of proteid as chemical structure, are paramount. Other factors distinctive in allergic effects are also influential.

Conditions of altered function, as hypertension, are relevant to allergic disturbance of renal capillaries.

Jaffee dreamed hypertension originated in the initial changes that are produced in renal glomeruli. The first origin of nephritic change existed, as shown by autopsied cases, in the glomerular circulation. This was produced by a paralytic effect upon renal capillaries, suddenly interrupting glomerular circulation. There then ensued a pressure in and consequent dilatation of afferent blood vessels.

Later, glomerular tufts showed evidence of harmful irritation, the capillary walls thickened, hyaline degeneration occured, and often capillary sclerosis was produced. The effect was typical of that producing arteriosclerosis. Afferent arteries, which had been unexposed to dilating effects of pressure, showed injurious effects from irritating toxines of endogenous and exogenous origin. Proliferation of the intima ensued, and hyaline and other degenerative changes occurred.

Histologic research has shown that certain kidney areas are at rest while other areas are active. The kidney structure is endowed with compensatory privileges. Localized "acidosis" effects have influence for enacting this response of functional rest. Recent investigation shows that living protoplasm has a slight acidity in p H values, while nuclear p H concentration is of the alkaline type. Injury increases the acid reaction of cytoplasm, but does not alter the reaction of the nucleus. The effect is, of course, one of adaptation to the dominance of ionic effect, and movement toward potential influence.

XXIX

Hypertension may or may not show high proteid retention. When it does, it designates an accompanying inability of renal cells to eliminate urea. This is due, in part, to diminished pressure in local sites from alteration as fibrotic change, or in areas which prevent the diffusion of the minuter collodoidal product, as urea; or again, to diminished pressure due to stoppered orifices from necrotic or other change, as cloudy swelling effects from allergic involvement.

Many amino-acid compounds oxidize to simple end-products. When ingested, histidine is usually destroyed through metabolism, but some remnant circulates as imadazol substances, being excreted by the kidneys. This is mostly from endogenous source, there being a relation between the amount of imadazol excreted and the amount of proteid ingested.

The prefix, azo, as meaning nitrogen necessity for preservation of life, assumes new diagnostic meanings.

Imadazols differ widely in pathologic occurrence. Small amounts of imadazol products are excreted in inanition; nephritis shows low imadazol excretion and high retention, to again evince the amino-acid effects from allergic onset.

Allergic effect upon the pulmonic structure is well known, evincing such localized effects as emphysema with "asthmatic paroxysms."

In the likening of tubulous pavement to that of alveoli, in surface cells and function, similar allergic effects pertain to both. The condition of renal structure, simulating the emphysema and "asthmatic" reflex of pulmonic structure, is allergic.

Decreased respiratory ratio is produced by such compounds as guanidin, methyl guanidin and dimethyl guanidin salts, with marked and prolonged rise in blood pressure and slowing of the heart. The effect is allergic.

The blood pressure rise produced by these agents may be promptly abolished by agents which promote elimination of the guanidin salts, to show that substances excreted by the mobilizing effects of selected agents have pressor effects in the kidneys.

Guanidin compounds result from decompensated enteric function. It matters little if creatinine has no effect in elevating blood pressure, or that guanidin has failed to substantiate the claims that it is toxic for man. It has been proven by Major and Stephenson that guanidin bases, methyl-guanidin and dimethyl guanidin are normal end-products of proteid metabolism, and have an effect in pressure raising.

The isolation of the specific compound for production of hypertension is less significant than the establishment of the fact tha treaction reflex, as alternation of p H concentration, becomes the dominant factor, and all remedial benefit establishes the fact that any effect is upon the basis of altering potential, and that this becomes established through treatment.

XXX

Vaughan refers to the requirement by "living protoplasm" of a carbohydrate group for conversion of simple protein to glycoprotein. This denotes a reaction essential to and attending every cell form engaged in reflecting energy.

Arrangement of ions creating the elements hydrogen and oxygen extends the process to atomic disposal and molecular control. This institutes an infinite program to fashion the display of other elements of equally diverse character.

The response of hydrogen and oxygen in effect upon each other constitutes energetic depiction, gives recognition to living matter, and provides specificity in structure. This applies to form, sex, and species, and gives origin to faculties of special sense and intellect.

Elements muster responses in reactions, as indicated in and expressed through the activities of ions in atomic grouping.

Regardless of variety in form as proteid, fat and carbohydrate, hydrolysis captures or releases energy at the will of directional ions. Here are provided the phenomena exploited in hydrolysis when acting after the manner or in the mode of catalysis, which hastens the arrangement, disposition, union or dissociation of atoms in the measurement of cellular response.

Oxidation releases potential energy within the cell, dividing fat, glycogen and proteids into component parts through hydrolysis. Reversing the process builds fat, glycogen and proteid through anhydrolysis effecting the elimination of the water molecule and change in water form.

Through the rearrangement of atoms and molecules by oxidation, ions are adsorbed proportional to oxidation. Adsorption occurs through the process of variable distribution of electrolytes, involving an alteration in potential.

Methods of oxidation, when conducted in ways that prove unadaptable to the cell, create trauma, cell dissociation being invoked, and dispossession of life may then ensue in the menaced cell.

Dialysis of oxygen through pulmonic cells expresses adsorption, an operation of cellular transfer of electrolytes, and a process that enlists the activities of all cells engaged in promoting organic life.

Entrance within and traverse of beneficial material through digestive channels is attended with excretion. This serves to express a reverse property in attendance upon adsorptive phenomena. Reversibility is an absolute requirement for organic existence, accompanying the placement and displacement of ions or atoms as electrolytes.

Phenomena which are confined to colloidal forms, in

guise of atoms or molecular groups, trace a lineage to the remotest ion. This favor in phenomena is granted structure for diversity that is demanded for adaptability to environment.

Recognition of ionic projection enlightens us concerning the operation of energy. The same impulse engaged in bombardment of electrolytes gives transfer in adsorptive phenomena.

Specificity in nuclear powers of hydrogen could not be expressed within the vertebral cell except through like benefits implanted in other organic servants. This is reflected in the sovereign powers shown by carbon, calcium and other elements, responding to the powers in oxygen.

The initial utilization of calcium by the cell was not an indifferent activity, but conformed to necessity for fashioning the organic cluster in both invertebrate and vertebrate types.

From the cruder form of keratin production in structural life, processes of evolution have advanced through grosser types of shell to the skeleton form which bases the higher and more specific type of vertebrate.

The realm of calcic control in the cell of man recognizes the influence in the benefits of combining elements, over which stands the shadowing principle of carbon.

All adsorption from the viewpoint of the animal economy is featured by the rare and specific virtues in the carbon atom. This serves filtration in dialytic membrane, through which diffusion occurs.

Colloidal and crystalloidal effects are transmitted by initial powers residing in electrolytes, which transmit ionic energy from point of origin to site for expression.

Selective activity of membranes is dependent upon carbon. Absorption can only take place through the peculiar feature that occurs in its course. Within the organic cell the two activities must balance in order that life may be manifest, thus constituting a reversibility of process.

XXXI

Upon the phasic response of the colloidal system we predicate biologic principles. The existence of sytoplasm depends upon reversibility of the colloidal system.

Adsorptive phenomena, effective throughout life, give variety to cellular existence, governing the resolution of grouping elements.

The cytoplasmic molecule, as the unit of structure, is a colloidal form, possessing a constantly changing substance. When the merit of flexibility as a reversible state ceases, fixation occurs and cell death is inevitable.

Cell cytoplasm, with its contained granules of any type, is but the enlarged representation of its own nucleus. All that engages the values of minuter forms, as to the ultimate ion, is of colloidal character in reversibility of property and must show responsive inclination to adsorptive phenomena.

Eliminating all intervening questions as having been answered, and coming to the final interrogation as concerns mitochondria and chromatin, we still observe formation. This occurs through the process of concentration of engendering ions, conveyed through adsorptive phenomena as the selfsame projection of atoms.

Through the adsorptive process is created structure and its flexible response from the most fluid to the most compact state, all dependent upon the concentration of atoms as promoted by catlytic servitors.

The granular theory for constitution of protoplasm alone satisfies investigation's demand. This is a colloidal response answering to concentration and reversibility of process. A granule may become a droplet or the reverse may occur in the dense particles as microsomes, which may be seen to change to fluid state.

The smaller the colloidal unit the more intense the manifestation of energy upon its surface. This indicates the concentration of power that occurs in the locking of energy within the minuter units, be they ions, atoms or molecules.

Mitochondria occur within all cell forms, at all stages of development, in all species of plant and animal forms thus far known.

Mitochondria may be regarded as lipoprotein, rich in phosphorus, susceptible to thermic effects, and indicating the first cellular components to undergo autolysis. They respond to the attack of acetic acid and fat solvents. They are involved in the formation of film surfaces which may be of but molecular thickness, prone to form and dissolve. This represents a concentration of units as in hydrogen or in hydroxide, distributed through adsorption for definite purpose.

A characteristic of colloidal phenomena is the formation of delicate surface membranes due to the aggregation of dispersed atoms. Most tissue cells form these membranes of a condensed peripheral layer of living protoplasm, as plasmic structures. These being rich in lipoproteins, are of first importance in cellular metabolism. They act in the capacity of governing flow within and without the cell as dialysis or atomic traverse.

Surfaces thus locate cellular activity or function. Formation of definite membrane is but a step forward from plasmic or surface film which forms and dissolves. The first is a concentration of dispersal, while the effect of solution is a traverse in reverse state. The distribution follows a definite purpose.

Primitive connective tissue originates cells of the reticulo-endothelial system, which show intense phagocytic activity and responsive reaction to vital staining.

Just as activity is prominent in concentrated areas as surface, so colloidal concentration forms the denser nucleus of the cell.

The granules that are concerned in production of nucleus are the most specific of the cell. Such mitochondrial provision, always exactly halving in mitosis, invariably donates an equal amount of chromatin to daughter cells.

While specific properties of cytoplasm may not be affected by absence of nucleus, yet cell repair, growth and reproduction cannot occur without the presence of a nucleus, and the resources for expression of energy soon exhaust with cell death.

Injury to the cell does not produce irreparable damage if the nucleus is uninjured, but if this centralizing body is traumatized to sufficient effect, cell necrosis must ensue. Cellular repair is dependent upon nuclear solvency.

Adsorptive effects are directed to nuclear alteration. This not only occurs in disturbances as pathologic attack of sufficient severity, but ensues upon medicinal benefit as a reparative privilege.

XXXII

Living organisms are recognized by their property of movement. Active movement depends upon that faculty of living substance which alters surface through rearrangement of atoms in adsorptive phenomena, akin to that of projection of electrolytes.

Alternate contraction and expansion of surface is a cytoplasmic response in movement, the effect of adsorption. Reproduction is generation in form of movement, a cytoplasmic change, evidencing adsorption and the effect of reversibility.

Life existence requires the persistence of reversibility,

for growth ensues upon the grounds of former reverse, that of liberation of atoms for subsequent arrangement in another molecule.

Specificity shown in clustering ions attaches to the element that is formed. The colloidal state of protoplasm is possible through the concentration of atoms and formation of molecules. The reverse in effect occurs in separation such as takes place in sudden oxidation as exploding gas or steam expansion.

Within the organic cell, synthetic activities are not slowly drawn out effects but ensue with incredible speed. The rapidity of process is provided through catalysts or enzymes which are always present in cytoplasm. The structure and composition of these activators has been and continues to be a well concealed mystery of the cell.

Based upon the identical activity shown in mitotic and amitotic phenomena, like operative methods attend the functions which accompany cellular experiences.

As vary colloidal units and groupings, so vary catalytic influences. Profoundly in effects, either of direct or indirect significance, must result from catalytic determinants.

Inasmuch as enzymes or catalysts are always colloidal, a significance resides in areas of colloidal exposure. Manifestly, then, amicronic forms being smaller than submicronic types, exhibit and condense a different potential.

The question of cytoplasm being the laboratory for colloidal production or a direct influence in release of energy is of less concern than the matter of surface area that is exposed within the cell's interior.

The vast era in an enormous field of minute colloidal atoms in dispersal state in the cell intensifies adsorption and speeds reactions as the effect of catalysts.

Ionic projection, modified to atomic transfer through the expression of electrolytes, attends the enforced program for cellular existence.

Within the cell, this must be recognized as creating physiologic activity, pathologic attack, or seating remedial influence in any form. All these effects must traverse identical routes through the direction of laws which govern colloidal forms and adsorptive phenomena.

There can be no mystery in either disease occurrence or within the province for its relief which is not mutually reflected. The entire field of cellular display nowhere allows alteration under some wizardry of pathology or its relief through treatment.

Biologic principles remain the same whether the cell is functionally normal and active, shackled in captivity of pathology, or illumined through benefit of remedial influence. The full reflection is that of an adaptability to environing conditions, as a reaction through adsorptive phenomena in response to controlling influence. As long as reversibility of process is available, the cell responds to overtures with all its privilege.

Within the field of rational medicine today, recognition must be taken of colloidal states as existing within and composing standards in cytoplasm.

Basically, alteration of concentrations which give specific benefits to cell types, to form, species, sex and higher faculties assures a change from an average in cell existence.

Thus preventive effects must be guided by intelligence and beneficial influences must be directed through adaptable provisions in cellular attainment. Recognition must be directed to influences which assail colloidal characteristics and which render inoperative those phenomena standardizing colloidal groups and balancing organic cells within specific fields of endeavor.

XXXIII

Selectivity in expression upon the part of the organic cell is the response to development, experience or education. It results from the recombination in synthetic construction.

In the cell of man this results upon the introduction of power units as in foods or other sources of energy. Entrance occurs through two routes, natural absorbing surfaces or parenteral introduction.

Forms creating protids and carbohydrates enter the blood stream through capillary perfusion. On the contrary, fats are inducted by the separate lymphatic system. The former varieties traverse the portal circulation before entering the heart, while the latter structural types evade the hepatic journey by entering the right subclavian vein, then passing through the right heart and becoming subjected to direct oxidation effects where avid plasmic colloids make contact with pulmonic alveoli.

Where the protid-carbohydrate combination meets the fat forms in the upper right auricle there can only ensue some metabolic, which is to say chemic process, which releases energetic effect. The local reflection here involves activity directed to the cardiac response and a hastened propulsion to the oxidizing process in the pulmonic function. Thus speeds the catalytic benefits involving CO_2 before its discharge via the lung.

An effect of CO_2 is the preservation of the disc-like form of erythrocytes; oxygen exposure, like that of water, tends to deform and crenate these corpuscles. Thus is colloidal perpetuation augmented and vitalized within this chemic chamber of the heart.

Halting the heart muscle in systolic contraction must allow a localizing catalytic effect and adsorption phenomena to occur in the short period of suspense. It is apparent that the endothelial surface is of the cell type shown capable of conveying powers in electrolytes elsewhere, and without question provides such expression here. The difference that exists in potential occurs with distinct positiveness in the union of the two paralleling systems, one lymphatic, the other portal and venous. The effect at the juncture of appositional phenomena conforms to the phenomena of peptization and Donnan's equilibrium. The distribution of electrolytes and the synthetic response must conform to features that are known as governing colloidal states.

There is thus created a reaction, which for want of better enlightenment we deem as simulating electrical phenomena, of the interrupted galvanic type. Yet, it is this which Mackenzie stated could not be electric, for such form of energetic display proves injurious to the organic cell.

The reticulo-endothelial system or glandular aggregation holds vigil over lymph supply, and it is through this system that the fat elements entering the right subclavian vein have tunneled. Through this media there has been exerted a property amplifying potential in lipin supply for combining with the protid-carbohydrate combination entering the right ventricle from the liver circulation.

When we realize that digitalic action upon the heart muscle is in reality due to certain glucosides in the potent leaf, we readily conceive why benefits are conveyed to the disturbed and peculiar neuro-muscular structure in heart supply, and why the reaction ensues upon a lipin potential.

When we recognize that parenteral proteid entrance is the introduction of colloidal forms that are abhorrent to normal cell clusters, we are halted with the thought of an effect upon colloidal cellular states and the powerful catalytic activity that foreign proteid forms create.

The effect of proteid treatment is the alteration of potential and colloidal standards undergo marked shock. If the introduction is by intravenous route, a startling education may suddenly horrify the administering physician in the onset and progress of an allergic state as "acidic" effect.

If thought be turned to the broad field for entrance of alien protid forms through sites for focal infection, the mind easily grasps the occult but pernicious and prolonged effects from the steady catalytic or enzymal influence created, attacking cell nuclei of the organic system.

Not alone do toxic forms of protid change and parenteral entrance devote a tireless drive upon cell nuclei, but restorative provision must be directed to the same end.

The perniciousness of effect from foci of infection is contained in the prolonged existence of the condition, the constant attack on nuclear forms finally rendering cells hopeless for restorative division and replacement, with exhaustion of the resources for reforming such structure as suffers the trauma.

Mitotic division is an entirely different process from amitosis. Certain structure occurs from amitotic formation. Conditions of cell exposure, which may be called environmental, alter methods of cell division and replacement. Focal infection is definite environment of a certain type, influencing cell response. Change in function and alteration in response follow the degree of its expression within the organic system. The methods of epithelial restoration and protection, the condition of fixation of pigment, alteration of structure, and solution of cells as in cutaneous pathology, evince the effect of focalizing entrances of protid forms in many apparent instances. How far reaching this may be as a factor in an ageing of cells, time alone will reveal. However, it may well be realized that phenomena related to hydrolysis and anhydrolysis are concerned in cellular alteration of any depiction.

XXXIV

Thyroidal benefit in treatment induces an alteration in colloidal states. Stimulation of reverse adsorption, occurs as the release of bound water, a hydrolytic manifestation and indicative of a selective field for attention. All glandular activities as endocrinal benefit in medicine are related to hydrolytic or anhydrolytic expressions and the interplay that is stimulated between the ions constituting the atoms of hydrogen and oxygen.

It matters little in the provocation of "acidosis" after its institution as to what engendered such a state; the benefit must ensue through hydrolytic phenomena.

In glycosuria, hydrolytic leverage is expressed. In nephrosis with albumin excretion, again hydrolytic effect is evinced, for increased protid diet increases urea formation, stimulating renal activity and urinary increase.

If we give arsphenamine products for spirochetic destruction, we introduce a colloidal catalyst and depend upon hydrolytic effects through oxidation. In administering iron for anemia, we give a catalyst for activating a colloidal response in the hemaglobin protid. When we give calcium for rachitic or other hypo-calcic state, it is because it asserts catalytic activity and corrects error in colloidal forms of lime within the system.

When we find tuberculous implantation, we know that fixation of pathologic type is present; an induced reversibility has bound structure in concentration in some areas and effected solution elsewhere; at least altered colloidal state occurs. Effort is rationally directed to forestall extension of the process and benefit such structure as finds its localized environment altered.

Concentrates in structure show adsorptive effects. The greater the concentration the more pronounced is disturbance in factors of resentment. Cartilage and bone are denser concentrates and frequent expression of chondral alteration occurs through acute or prolonged infective entrances.

Relief ensues upon the direction of remedial influence adapting its adsorptive transit to denser structure. This is essentially through hydrolytic precision. Increased excretion by any process demands hydrolytic recognition. The elements entering into compounds best favoring reparative response in rheumatism are shown as favoring hydrolysis and so inciting transfer of electrolytes.

We may extend the references indefinitely and find that there remains the conformation to colloidal phenomena and phasic reversibility.

We must regard vitamines as enzymes, shown to be colloidal catalysts. The lipins or lipoids, which have been mentioned, with other specific structures such as cholesterol, cuorin, adrenalin, lipase, trypsin and innuberable other known and anticipated substances, respond through catalytic influence and colloidal effect.

Thus do we base the premises for attainment in rational medicine and weave the fabric of a colorful mantle adorning the newer methods of greater scope, which long since displaced the haphazard art of Galen. For now is securely instituted the scientific lane illumined in the past by such lights as Sydenham, Pasteur, Lister, Osler and Mackenzie, and now thronged with the goodly fellowship of a great profession in glorified progression.

(Concluded)

Snake Bites

The snake bite is usually on the lower part of the limb, and a band made of a handkerchief, necktie, or similar article should be instantly applied a few inches above the wound between it and the heart and tightly twisted with a stick to shut off the circulation to the part and prevent the poison from being carried into the system by the circulating blood. The bite of most venomous serpents consists of two punctures. These small wounds should be freely incised with a knife and then sucked. There is no danger in sucking the wound if there are no cracks or sores in the mouth or on the tongue.

After the wound has been sucked it should be cauterized. This is done by applying carbolic acid or nitric acid on the end of a stick, such as a match stick or toothpick. Most of these injuries happen in the wilds, where such chemicals cannot be obtained. Cauterization may then be performed by heating a nail, a knife blade, or some other metallic object, such as a suspender buckle, in a fire and freely burning all parts of the wound. On hunting trips a cartridge may be torn open and a little gunpowder poured on the wound and then ignited with a match. Permanganate of potash has been highly recommended, and is used by injecting a 1 per cent solution into the wound and also into the surrounding tissues by means of a hypodermic syringe. The crystals of permanganate of potash may be rubbed into the wound.

After the wound has been sucked and cauterized so as to extract and destroy as much of the poison as possible, the tourniquet may be loosened. It should be allowed to remain loose for one minute and then tightened up again. Wait 20 minutes and if no alarming symptoms develop it is again released, and this time allowed to remain loose for two minutes, after which it is tightened. Another period of 20 minutes is allowed to elapse, and on this occasion the tourniquet is left off for three minutes. The procedure is continued for several hours, gradually increasing the time the tourniquet is off, and is known as using the intermittent tourniquet, the object being to allow only small quantities of the poison to get into the system at one time.

If in spite of the local measures and the use of the tourniquet general symptoms develop, the patient must be given stimulants. It is commonly believed that large doses of whisky or alcohol in some form should be administered. This is a mistake, as large doses will do harm by adding another depressant to that which is already in the system.

Instead of whisky it is better to give aromatic spirits of ammonia, one-half teaspoonful in water every hour, and a half cupful of very strong coffee every two hours.

External heat is sometimes useful. A compress wet with boric-acid solution should be applied to the wound after cauterization.

Functional or Nonorganic Heart Murmurs

Etiology and Diagnosis

SAMUEL A. LOEWENBERG, M.D.,

Philadelphia, Pa.

The normal heart, under the impulse of the life-forces, is periodic in action and rhythmic in sound. The normal blood, definite in specific gravity, passes through the heart at a given rate per minute; the heart valves open and close with a definite degree of elasticity.

When lesions of the valve structures exist, abnormal sounds are produced and these are classed as organic murmurs. Also, when the nutritive value of the blood is altered and the periodicity of the blood flow is disturbed, or the elasticity of the valves and the tonus of the valve orifices are to any degree lost, then too, abnormal sounds may occur, due to these changes. Such sounds are classed as functional murmurs.

Functional murmurs are variously named as inorganic, hemic, anemic, dynamic or accidental murmurs.

The definite cause of functional murmurs is still a matter of dispute although several theories have been advanced to account for them.

Bouilland [1] was the first to call attention to these murmurs, describing them as occurring in anemia. For this reason he named them "hemic murmurs." It is true that in anemia such murmurs are often found, but not in all cases of anemia, even with an identical blood-count; the same kind of murmur, futhermore, may be found in persons who are not anemic.

Shali [2] states that these murmurs are nothing more than venous hums transmitted from the veins in the heart. Such sounds are possible and no doubt often occur. But why should they be systolic in time? And why should anemia produce such a hum in some instances and not in others?

J. M. Anders [3] was among the first to call attention to the diastolic functional murmur found at the aortic orifice, attributing it to relative insufficiency as a result of over-stretching of the valve orifice.

Many observers have advanced other theories, some of which may account for one group of cases, leaving a greater group entirely unexplained.

Among these theories the following are prominent:

1. That a functional murmur is caused by temporary or permanent overstretching of the conus arteriosis. Although this may explain the basal murmur, it does not account for the apical.

2. That a functional murmur is caused by pressure or suction exerted upon the overlapping lung margins by the cardiac contractions. If this be true, the sound thus produced should be classed as an *extra-cardiac, pleuro-pericardial friction* sound; and furthermore, why should such a murmur occur in anemia or in those suffering from malnutrition?

3. That a functional murmur is produced in the veins of the neck and is transmitted downward to the vena cava. This is possible in some cases, particularly so if the veins are somewhat constricted in lumen or tortuous along their course. But a venous hum does not always accompany such murmurs.

Mackenzie [4] sums up the entire subject in this statement: "It is true that we may find a murmur with dilatation of the heart—we may often find great dilatation with *no* murmur. Further, we may find murmurs come and go, when there is no perceptible change in the size of the heart. The alteration of the patient's posture may bring out the murmur, or, when one is present, it may disappear on such change. From this, it can be inferred that there is some special mechanism *apart from that involved in the dilatation of the auricle and ventricle as a whole, and the obscure mechanism varies* under circumstances which we are still unable to appreciate."

During health, the heart valves possess a certain degree of elasticity. The normal closure of these valves during the heart cycle produces a definite valvular sound which cannot be readily isolated in the normal first sound because of the muscular elements in that sound. The normal second sound, however, is entirely valvular.

Increased tension in the normal valve causes an accentuated, or louder sound.

A degenerated myocardium allows the valvular element of the first sound to be plainly discernible.

It seems quite evident that a valvular heart murmur occurs as the result of valvular defect. The defects in a valve leads to obstruction or regurgitation, at times to both. The time of a murmur is either systolic, diastolic or both. Functional murmurs at the various valves (excepting the Austin-Flinte murmur) always occur at such time of the hearts cycle that they must be interpreted as being regurgitant. They are heard over the respective valves in the following order of frequency: Pulmonic, tricuspid, mitral and aortic. At the mitral and tricuspid orifices, the murmur is always systolic. At the aortic and pulmonic orifices, it is always diastolic. Therefore, due to insufficiency of a valve, and since such murmurs are temporary, the defect should be considered as a relative insufficiency. This insufficiency may have been brought about by three distinct conditions.

It is erroneous to attribute the various kinds of nonorganic murmurs to one condition. It is true that a heart murmur, organic or nonorganic, implies an abnormal condititon in the heart valves. But the difference between the organic murmur and the nonorganic murmur is just this:—*the organic murmur persists throughout life; it is known to be caused by a definite irreparable structural change in the heart valves. On the other hand, a nonorganic murmur lasts only for a comparatively short time and is caused by a temporary change in the heart valves and the structures that reinforce them. This change may occur as a result of malnutrition or faulty innervation of the structures in question.*

The factors operative in the production of functional murmurs may be grouped in 3 classes. (1) Insufficiency of the valve leaflets, caused by dilatation of the valve orifice; (2) Uneven tension of the papillary muscles, due either to faulty innervation, degeneration, or both; (3) Loss of elasticity of the valve leaflets.

A combination of two or all of these conditions may occur in some cases.

1. Insufficiency of the valve leaflets caused by dilatation of the valve orifice.

This condition usually occurs in a heart whose myo-

---

[1] Bouilland, T. B.: Treatise on diseases of the heart. Tr. by P. M. Chauncy. Phila. Carey, Lee and Blanchard, 1833.

[2] Sahli, H.: Treatise on diagnostic methods of examination. Tr. from the 4th German ad. Phila. W. B. Saunders & Co., 1911.

[3] Anders, J. M.: Text-book of the practice of medicine. Ed. 7, W. B. Saunders & Co., 1905.

[4] Mackensie, J.: Diseases of the heart. Lond. H. Frowde, 1913.

cardium, more especially that part of it which forms the valve ring, is below par. When a strain, whether severe or moderate, sudden or gradual, is brought to bear upon a defective muscle, that muscle will lose its elasticity. The degree of strain required to paralyze a muscle depends entirely upon its condition. A weak myocardium and malnourished fibrous tissue is bound to yield to an unusual amount of pressure.

As the muscle and fibrous bands controlling the valve orifice lose tonicity, the orifice dilates, causing the valve leaflets to separate producing an insufficiency which persists until the heart muscle and its fibrous tissue regain their normal tone. So long as that part of the myocardium and the orifice structures, which form the valve ring, retain their normal tonicity, a murmur will not be produced, no matter how greatly the heart may be dilated. Per contra, a heart may show no evidence of dilatation, but if its orifice is dilated a murmur will occur. A murmur due to this cause, closely resembles the organic variety; it is soft and blowing in quality, but of shorter duration than the organic. Furthermore, it is often transmitted for a short distance along the blood stream and is accentuated by exercise and by such posture as will bring the heart closer to the chest wall.

When the mitral and tricuspid valves are thus affected, the murmur is systolic in time; if the aortic and pulmonic are affected, the murmur occurs during diastole. The mitral murmur of nonorganic valvular insufficiency may be heard either at the apex or in the vicinity of the third intercostal space immediately to the left of the sternum, or at, or about that level inside of the left sternal line. (This is the anatomic position of the valve orifice.)

The mitral nonorganic valvular insufficiency does not cause cardiac hypertrophy, though a hypertrophied heart may develop a functional murmur. Nor does this condition cause accentuation of the pulmonic second sound. This diagnostic point does not always hold in patients suffering from lung disease because any disease that causes increased pressure in the pulmonary circulation will produce accentuation of the second pulmonic sound.

If the tricuspid valve is affected, the resulting murmur is much softer and of shorter duration than the organic. It is systolic in time and is heard at the lower portion of the sternum, but is not transmitted to the liver. The patient is cyanotic, the amount of cyanosis depending upon the degree of relative insufficiency. The least exertion causes violent pulsations in the veins of the neck.

When the aortic valve is affected, the functional murmur is diastolic in time, extremely soft—at times hardly audible during respiration. The diastolc murmur does not entrely displace the aortic second sound, and is not transmitted downwards. Pulsation is visible in the neck but not in the arms. The pulse is full but not of the water-hammer type. Sometimes it is of a bounding quality and recedes quickly but it does not possess the typical Corrigan quality. Capillary pulsation is absence. The diastolic blood-pressure does not fall to the low level it reaches in true oartic insufficiency. The systolic blood-pressure always falls from ten to fifteen millimeters of mercury after exercise. This type of nonorganic murmur often develops in myocarditis with acute dilatation, and may occur in one valve as the result of an organic lesion in another valve.

2. Uneven tension of the papillary muscle, due either to faulty innervation, degeneration of the papillary muscle, its tendinae, or both.

The second type of functional murmur arises from uneven tension upon the valve leaflets. The papillary muscles through the cordae tendinae normally hold the mitral and tricuspid valves in a constant state of equilibrium. If, for any reason, a papillary muscle or one of its tendinae loses the power to assist in holding the valve leaflets at the proper tension, a very soft murmur will result.

This may occur as a result of either—

(a) *Degeneration of the papillary muscle.* No matter how slight the degeneration of the muscle, that part cannot control one or more of the tendinae. A weakened surface, in an otherwise taut valve leaflet, would permit a slight regurgitation.

(b) *Faulty innervation of the papillary muscle or of several of its tendinae.* This may cause spasmodic, or unequal contractions, leaving an uneven surface to guard against the blood-stream. The consequent regurgitation is heard as a slight murmur, because the quantity of regurgitating blood is small. This murmur occurs as a rule in patients who are "high-strung" or of a neurotic temperament.

The heart in such subjects is not under perfect mechanical control during either mental or physical strains.

Such a murmur is often brought out by exercise which excites uneven tension because of the additional force, thus causing a slight leak. Exercise, on the other hand, may cause the mechanism to readjust itself under steady strain, in which case the murmur disappears. This murmur is characterized by its evanescence; it is high-pitched, of a metallic, whistling quality and resembles the sound made by forcibly swishing a reed or stick through the air. The heart sounds are rapid, of high pitch, the murmur occurs at the end of the first sound. It is heard most frequently at the apex, and at times over the 4th left interspace, the lower part of the sternum and the 3rd left interspace, in order named. This murmur is not transmitted. Iron and arsenic, and at times a full dose of digitalis will cause the disappearance of this murmur. In some cases large doses of bromides will have the same effect.

3. Inelasticity of the valve leaflets themselves.

In this type of valvular defect, the papillary muscles and tendons are of normal tone; no dilatation of the orifice or weakening of the structures exists. In normal closure of the semi-lunar valves, there is a distinct high-pitched sound—the second cardiac sound. The valvular element of the normal 1st cardiac sound cannot be isolated form the muscular sound, but in the presence of myocarditis, the valvular element of the first sound may be isolated from the muscular element.

So long as the elasticity of the valves remains normal and regardless of the condition of the myocardium, the valvular sounds will be clear and characteristic. Any condition which causes a loss of elasticity in the valve leaflets, partial or total, temporary or permanent, must produce an alteration in the normal sound.

Any form of anemia or malnutrition may cause a functional murmur of this type. The valve leaflets suffer from lack of nutrition and as a result are enfeebled. Their lack of nutrition is manifested by a loss of elasticity.

When a valve loses its elasticity it lacks the snap which is possessed by a normal valve; its action in closure becomes sluggish. Naturally, it cannot withstand the intracardial blood pressure and in consequence thereof, a small volume of blood may be forced through the valve, producing a faint murmur. The quantity of leaking blood must of necessity be small; for otherwise there would be manifested signs of ruptured compensation. This murmur is not transmitted for the reason that the counter eddies set up are not strong enough

to be carried by the blood stream. In conditions of very rapid circulation, such as those prevailing in the prolonged fevers of typhoid and malaria, the blood is usually improverished by the disease. The consequent lack of nutrition and the constant overwork of the heart valves may eventually cause over-stretching of the valve leaflets causing loss of elasticity.

This type of functional murmur is more frequently heard over the pulmonic than over the aortic orifice; because the pulmonic valve is bathed in venous blood which cannot aid in its nutrition, therefore it may give way sooner than the aortic; and because the musculature of the right ventricle is weaker than that of the left ventricle and the pulmonic valve not quite as compact as the aortic valve.

These murmurs are also heard at the apex, but not so frequently as at the base, because the muscular elements of the first heart sound often mask the presence of a low grade functional murmur.

A functional murmur of this type at the apex may often precede an organic murmur. The loss of elasticity in the mitral valve may predispose it to bacterial invasion or ulceration, thus crippling it permanently and causing an irreparable condition, such as often occurs in bacterial endocarditis and rheumatic fever. When the mycardium weakens, and a functional murmur is present at the apex, its character can be readily recognized because the heart muscle is not sufficiently powerful to produce sounds loud enough to efface the sound caused by the valvular defect.

At the tricuspid area, this type of functional murmur is more common than at the mitral; the right ventricle has a less powerful muscle sound than the mitral and is therefore unable to shut out the valvular element, thus allowing the murmur to be heard more easily. Apart from this, the tricuspid valve controls venous blood and is less firm than the mitral.

The functional murmur at the apex, is as a rule soft and blowing and is not associated with accentuation of the second pulmonic sound. It usually occurs at systole, though in rare instances it may be diastolic. It is brief and at times evanescent, and is transmitted over a very limited area; or often not transmitted at all. It does not cause cardiac hypertrophy, but a heart previously hypertrophied may develop a nonorganic murmur.

Some of these murmurs are more clearly elicited at the height of inspiration; others are best heard during expiration. In some cases the recumbent posture will bring out a murmur; in others it will cause the murmur to disappear. The change in posture is often all that is needed to bring out such a functional murmur clearly or to cause its disappearance. Exercise and the administration of digitalis enhances this murmur, while absolute rest and the administration of strychnine cause it to disappear.

In some instances all the three factors mentioned as causes of nonorganic murmurs may be operative in a single case. Thus, in the same patient a valve orifice may be dilated, the valve leaflets may have lost their tone, and the papillary muscles may be degenerated, all from a common cause.

Characteristics of Functional Murmurs

1. Systolic in time in 90 per cent of the cases.
2. Most commonly heard at the pulmonic orifice or over the midsternal line and third rib. Next in frequency over the tricuspid and mitral areas, and less frequent over the aortic.
3. Rarely transmitted beyond a short distance.
4. Usually soft and blowing in character.
5. Not accompanied by cardiac hypertrophy.
6. As a rule they are loudest at the end of inspiration because at that period the lungs are under great tension which must be met by a greater effort on the part of the pulmonic valve.
7. Evanescent in character, they may disappear and reappear at various times.
8. Usually associated with some form of anemia and myocarditis.
9. When the patient improves, the murmur disappears.

1905 Spruce Street.

Standards for Milk Products Amended

The Secretary of Agriculture has promulgated for the guidance of officials in the enforcement of the Federal Food and Drugs Act revised and amended definitions and standards for milk and its products adopted by the Food Standard Committee. This committee is composed of three representatives each of the Association of American Dairy, Food and Drug Officials, of the Association of Official Agricultural Chemists and of the United States Department of Agriculture.

The revised standards and definitions include milk, pasteurized milk, homogenized milk, skimmed milk, buttermilk, goat's milk, evaporated milk, sweetened condensed milk, evaporated skimmed milk, sweetened condensed skimmed milk, dried milk and dried skimmed milk. The text of the standards and definitions recommended by the committee is as follows:

1. MILK is the whole, fresh, clean, lacteal secretion obtained by the complete milking of one or more healthy cows, properly fed and kept, excluding that obtained within fifteen days before and five days after calving, or such longer period as may be necessary to render the milk practically colostrum-free.

2. PASTEURIZED MILK is milk that has been subjected to a temperature not lower than 145 degrees Fahrenheit for not less than 30 minutes, after which it is promptly cooled to 50 degrees Fahrenheit, or lower.

3. HOMOGENIZED MILK is milk that has been mechanically treated in such a manner as to alter its physical properties with particular reference to the condition and appearance of the fat globules.

5. BUTTERMILK is the product that remains when fat is removed from milk or cream, sweet or sour, in the process of churning. It contains not less than eight and five-tenths per cent (8.5%) of milk solids not fat.

6. GOAT'S MILK, EWE'S MILK, ET CETERA, are the fresh, clean lacteal secretions, free from colostrum, obtained by the complete milking of healthy animals other than cows, properly fed and kept, and conform in name to the species of animal from which they are obtained.

7. EVAPORATED MILK is the product resulting from the evaporation of a considerable portion of the water from milk, or from milk with adjustment, if necessary, of the ratio of fat to non-fat solids by the addition of by the abstraction of cream. It contains not less than seven and eight-tenths per cent (7.8%) of milk fat, nor less than twenty-five and five-tenths per cent (25.5%) of total milk solids; provided, however, that the sum of the percentages of milk fat and total milk solids be not less than thirty-three and seven-tenths (33.7%).

8. SWEETENED CONDENSED MILK is the product resulting from the evaporation of a considerable portion of the water from the whole, fresh, clean, lacteal secretion obtained by the complete milking of one or more healthy cows, properly fed and kept, excluding that obtained within fifteen days before and ten days after calving, to which sugar (sucrose) has been added. It contains not less than twenty-eight per cent. (28.0%) of total milk solids, and not less than eight (8.0%) of milk fat.

9. EVAPORATED SKIMMED MILK is the product resulting from the evaporation of a considerable portion of the water from skimmed milk, and contains not less than twenty per cent (20.0%) of milk solids.

10. SWEETENED CONDENSED SKIMMED MILK is the product resulting from the evaporation of a considerable portion of the water from skimmed milk to which sugar (sucrose) has been added. It contains not less than twenty-four per cent (24.0%) of milk solids.

11. DRIED MILK is the product resulting from the removal of water from milk, and contains not less than twenty-six per cent (26.0%) of milk fat, and not more than five per cent (5.0%) of moisture.

12. DRIED SKIMMED MILK is the product resulting from the removal of water from skimmed milk, and contains not more than five per cent (5.0%) of moisture.

Cosmetics*

Is There a Necessity for Public Regulation?

S. Dana Hubbard, M.D.
New York, N. Y.

The art of embellishing the human face and form has always existed but it has remained for this period to carry it to the n-th degree.

Beautifying is one of the most natural of all of the arts and the most common is that gilding which is performed by our modern women.

To color the hair, the cheeks, the lips, yes, even the finger nails and the nether extremities, as is done now, so far as I know, has not been considered immoral, though some of our modern preachers have denounced it as wasteful of time, and through causing sex attraction, as being sinful. This doctrine, however, has not made any progress with the fashion of embellishing the fair forms of our women.

Puritanism, which is a very narrow morality, reinforced by a more narrow religion, has always denounced these practices and if we may judge of the portraits of men and women of early American days, paint, powder and such trivialities were strictly taboo.

Pleasure, for ages, has ruled the world and *Vanity* today is king. To make one's self attractive is accepted generally by the informed as not only proper but a duty and such endeavors by both male and female has given work to many hundreds of persons.

Cosmetic Statistics

There visited public beauty parlors in 1925 in the United States 60,000,000 men, women and children.

The industry or art of personal embellishment gives today employment to no less than 170,000 persons, called COSMETICIANS.

There are 135 training schools for future creators of feminine beauty alone. Pupils pay an average of $250 for a course of instruction—really apprenticeship—and one of the beauty schools inform us they turned out 2,000 graduates in one year.

It has been estimated that in the registered shops that there was taken in by these places in 1925 the sum of nearly FOUR HUNDRED MILLIONS OF DOLLARS.

Eleven of the forty-eight states have statutes regulating this activity and require operators to have a license.

U. S. Census Analysis of This Trade

Year	Number of Establishments	Cost of Material	Value of Product	U. S. A. Population	Census Year
1879	67	$1,201,409	$2,203,004	50,155,783	1880
1889	157	2,128,420	4,630,141	62,947,714	1890
1899	262	3,135,017	7,087,704	75,994,575	1900
1909	429	5,634,031	14,211,969	91,972,266	1910
1919	569	26,147,026	59,613,391	105,710,620	1920

There may be those who would inveigh against cropped hair, short skirts, thin hose, high heels, use of cosmetics, and numerous facial and bodily re-formations, but these matters concern no one but the individual herself.

It is a private, strictly personal affair, and our only concern is to make such trade—for it is a business—safe and sound. And when I make this statement, I have facts on which to base my conclusions. Many of these are court records.

The question therefore before us now is not an ethical one, nor a medical one, but a public health proposition—How can cosmetics be made safe and free from danger?

What are Some of the DANGERS, if Any Exist?

The Press has time and again noted in its news columns instances of death from *Face peeling.*

Technical journals have repeatedly carried reports of cases of poisoning of one form or another incident to the use of one or another of the cosmetics.

We have personally observed many thousands of cases of damage and disfigurement incident to the use of cosmetics.

We know from government analysis that many cosmetics do contain one form of poison or another. Lead, Arsenic, Mercury, Carbolic Acid, Hydrofluric Acid, and many "Amines" derived from coal tar hydrocarbons, as well as Wood Alcohol and other similar poisons.

Cosmetics can therefore do great harm, and they have in occasional instances been made to do considerable damage. Death and disfigurement has been occasioned. This is more than unfortunate because we have found in some instances poisons being promiscuously peddled and advertised to be *"absolutely safe and harmless."*

What is the danger, therefore, to the sale or use of cosmetics, if it is not personal harm, pain and discomfort?

To promiscuously apply by an uninformed person a known chemical that will cause irritation and inflammation to the skin for the simple purpose of beautification is not safe practice when such use makes this business one for careful regulation.

The regular medical profession know that many drugs may be used to depilate, to bleachen, to remove defect, and they use such with a full appreciation of the potentialities but to permit ignorant, uninformed, inexperienced, untrained persons to operate a trade closely akin to medical practice, is to cause damage untold.

Why Is It Possible to Sell Cosmetics. Containing POISON, Without Official Supervision?

For but one reason—*they are not regulated by law.*

The Federal government and many states have statutes which regulate the sale and handling of drugs and chemicals intended for therapeutic use. But when not intended for treatment then they escape regulation.

Cosmetics have no statute, so far as I know, which will make it a high crime to sell or use dangerous chemicals and poisons in beautification.

Classification of Cosmetics

In the list of cosmetics generally advertised to the public we find agents intended for the *SKIN, HAIR, NAILS, EYES, Lips and Teeth.*

For the Skin	Deodorants, "Skin Foods," Depilatories, Freckle removers, Tan bleachers, Skin coloring, Skin bleachers, Articles for the removal or prevention of lines and wrinkles.
For the Hair	Hair tonics, Hair dressings, Hair food, Shampoos, Color restorers, Dandruff removers, Oil removers, Depilatories, Hair growers, Hair powders, and Hair revivers.
For the Eyes	Brilliantines Drops Eye Lotions

* Read before the Society of Medical Jurisprudence, February 14.

For the Lips	Pomade Cream Color sticks
For the Nails	Nail coloring, Cuticle removers Nail varnish, Nail polish Nail dressing, Nail bleachers Emery boards, files, scissors
For the Teeth	Dentifrices, Pain removers Gum hardeners Stain preventors Tartar removers and preventors

This shows rather clearly the numerous classes and when it is known and fully appreciated that in each group there are represented a very large number of secret proprietary remedies, the composition of which is most uncertain and often compounded by the most ignorant tyro, and extravagantly and misleadingly advertised, we find a problem simply awe inspiring.

Now when it is known that quite a few of these cosmetics are said to be safe and harmless, though they contain dangerous and poisonous chemicals—lead, arsenic, mercury, carbolic acid, etc.—and no information is given the user of the nature of the contents have we not a mighty dangerous condition, especially when we are informed that this person and that one has died here and there from the use of this or that cosmetic.

A little familiarity with the composition and the ways of this trade and the public would not be so gentle with such abuse. Lamp posts and rope is still available, but intelligent citizens do not take the law into their own hands when surrounded by the comforts of organized society, but is it not high time that society took heed of this condition?

In the interest of decent trade and fair dealing all secrecy should be done away with in selling proprietary preparations. In medicine we demand of pharmacy and manufacturers of pharmacals a definite and proper standard and the statute regulates such. Would it then be unfair or unreasonable to demand similar practice from those selling cosmetics?

If the contents of these secret preparations were known, manufacturers could be held responsible for variation of contents from the declaration and the public could not be imposed upon when a three cent article is sold for several dollars. Cheese curd could not masquerade as "Vanishing Cream."

As—public health laws—medical statutes were enacted for the protection of the public from quacks and imposters so will persons desiring to beautify themselves through cosmetic application have to be protected by legal regulation of the sale and use of these.

We would quote from a public reprint—M. I. Wilbert, U. S. P. H. S. No. 305—

"Of the many and varied abuses of drug products there is none in which fraud, deception, and a wanton disregard for human health and even life are so clearly evidenced as in connection with the manufacture, sale and use of the so-called cosmetics."

The same authority suggests as a remedy—

"To prevent serious intoxications and to preclude obvious deception and fraud, cosmetics should be CLASSED AS DRUGS and preparations sold as cosmetics should be required to state *on the label* the name of any poisonous ingredient that may be contained."

If a statute is desired, could not the following be a model?

Distribution, Sale and Commercial Use of Cosmetics, Regulated.

Section 1. It shall be unlawful to manufacture, distribute, sell or commercially use, or to possess for distribution, sale or commercial use, a cosmetic which is adulterated or misbranded within the meaning of this act.

Section 2. The term "Cosmetic" as used in this act means any substance or combination of substances represented, whether wholly or in part, as for use externally or by direct application for embellishing, cleansing, perfuming, conditioning or otherwise improving the appearance of the skin, lips, eyes, hair, nails or teeth of the human body, whether such representation be made on the label, in advertisements or orally, and whether with or without reference to the cure, mitigation or prevention of disease; except (a) substances prescribed or applied for any purpose named above, by regularly licensed doctors of medicine and doctor or dental surgery for patients whom they are personally attending and (b) substances and mixtures of substances bearing only names recognized in the U. S. Pharmacopoeia or in the National Formulary, and without claims for remedial value.

Section 3. A cosmetic is adulterated within the meaning of this act if it contains any salt, compound or derivative of lead, arsenic, mercury, or of hydrofluoric acid, anv free sodium or potassium hydroxide in excess of one-half of one per cent,* any amine derived from coal tar hydrocarbon, and methyl-alcohol (wood), or any other ingredient that renders its use injurious.

Section 4. A cosmetic is misbranded within the meaning of this act—(a) If its package or label shall bear, or any advertising matter relating to the article shall contain, any statement, design or device which is false, misleading or deceptive in any particular. (b) If its inner and outer package labels shall fail to bear a plain and conspicuous declaration of the presence and amounts in accordance with the common method of expression, of such of the following as may be ingredients, accompanied, except in the case of dentifrices and soaps, by the phrase, *For External Use Only:* salts, compounds and derivatives of silver, copper, zinc, barium, antimony, cadmium, nickel and of cobalt; any oxalic acid, belladonna or mydriatic alkaloids, and any salts or derivatives of such: any pyrogallic acid, calcium sulphide, formaldehyde, aluminum chloride, aluminum oxychloride, and any free mineral acid in excess of one per cent.

(Follow with provisions for enforcement, regulations, penalty, etc.)

* Actually a tolerance of one-tenth of one per cent is ample for toilet soaps, as any good soap manufacturer will agree.

Discussion

Edward R. Maloney, M. D.:—I can only discuss Dr. Hubbard's very interesting paper from the standpoint of a dermatologist. Dermatologists are in a position to see the results of treatment by cosmetics used by the various beauty parlors and the injuries that result from these treatments. We are in position to know that a great majority of the face lotions, creams and tonics are useless, and harmless, others, particularly the hair tonics and the freckle lotions are harmful, for many of them contain irritating chemicals such as the salt of lead, mercury and bismuth, and paraphenylendiam dye.

The ordinary result of their use is a dermatitis which ceases when the use of the preparation is stopped. The dermatitis, however, interferes not only with the comfort of the individual but also with the ability to work, thus resulting in an economic loss. The use of lotions containing escharotics for the removal of pigment deposits is very dangerous. Injuries resulting from their use are often very serious and are permanent. Very serious results often follow the removal or attempt at the removal of moles by electrolysis and caustics; often melanoma is mistaken for an ordinary pigmented mole and improper interference with it results in a general malignant outbreak throughout the system and death. I have seen two cases in the last year where melanomas were mistaken for moles, were improperly interfered with, and both were dead within six months.

Another thing which is more serious than the ordinary use of cosmetics, although it is a cosmetic treatment, is face lifting by the injection of paraffin, which often results in the formation of paraffine tumors. As the paraffine melts it descends to dependent parts of the face and tumors are developed where there was perfect skin before. These paraffin tumors are not only unsightly but they are dangerous because they sometimes degenerate into malignant tumors.

More important still is the use of the X-ray in the treatment of superfluous hair. There are a number of institutions that advertise that they remove superfluous hair by a new apparatus which they either state or infer is not x-ray, but some new "Flare." Some of these concerns are run by licensed physicians. Dr. Howard Fox had three of these investigated by his office assistants, doctors familiar with the use of x-ray and they found that all of these men were using the x-ray. Although they were not skilled in the highly specialized matter of using the rays, it was impossible to do anything about it. We are constantly seeing cases that have been burned by this method of treatment, but it is rare that the victims sue the operator or are willing to follow the case through. The bad result from this treatment is the production of chronic inflammation of the skin with atrophy and dilated blood vessels. The condition is an unsightly one and causes the patient considerable mental and physical disturbance and may degenerate into epitheliomas.

The cosmetics in themselves are not particularly dangerous, although they are sometimes compounded of dangerous ingredients. The medical profession has been lax in regard to this subject, but in the last few years it has received considerable attention as a result of the action of the Section of Dermatology of the American Medical Association. A committee was appointed by them in 1924 to study the subject and Dr. Cole published a report in February in which he detailed facts regarding a number of injuries from widely advertised cosmetics. Some were serious and some not so serious, but all were listed. It seems almost impossible to stop the use of these materials, but education of the people will do much and educating the medical profession will do more. The *Journal of the American Medical Association* has published some valuable articles on the subject of cosmetics and the same organization publishes a work called "Nostrums and Quackery" which contains analyses of many cosmetics in use. The hair dressers themselves are beginning to realize they will have to do something to offset the knowledge people are acquiring of cosmetics. I recently received a letter from the American Hair Dressers' Association asking about the dangers of certain ingredients in cosmetics. They seemed to either want to save their business or to avoid the use of dangerous drugs such as paraphenylen diamine. I think copies of this letter may have been sent to many dermatologists. Certain people are very susceptible to the action of certain chemicals, though others are little affected. Paraphenylen diamine is able to produce irritation in almost everyone. France, Austria and Germany have passed regulations to stop the use of it in hair dye.

The principal way to get at this subject is through education. That can be done by articles written by individuals recognized by medical societies to the authorities, or by propaganda in magazines such as *Hygiea*.

Dr. Leon T. LeWald:—I will show you the records of the sad effects of what happened to some physicians who used the x-rays in testing them in the days before we had perfected instruments of precision. Some of them who later developed cancer received no greater dose than a case I saw recently of a woman who had an x-ray burn on her face received in the process of *treatment for the removal of superfluous hair*. In such a case there is also the possibility of the development of as serious a disease as cancer in the scars. In referring to the necessity for the regulation of cosmetic treatments Dr. Hubbard is not dealing with a mythical subject at all. There are compensations in this world; good is weighed against evil. The good of the x-ray has so out-balanced the evil that we seldom think of the latter. But it has all the potentialities of danger just the same. Many of the x-ray pioneers died of cancer as a result of x-ray burns in using the rays without protection. In those days we did not know the dangers at all and people like Caldwell, Baetjer, Hall-Edwards, and Bergonie were true martyrs in their experimental zeal regarding the use of x-rays and radium. In regard to radium, Dr. Francis Carter Wood told me he hoped that after the Health Department has issued regulations regarding the use of the x-rays they would take up the subject of radium regulation, because it is also a serious question. Some of the damages resulting from the x-rays can be overcome by grafting on new skin, but this would not be applicable to the scars covering the face. The skin is thinned out and devoid of elasticity, there is the possibility of the development of cancer later. To prevent these evils the Department may have to add some section to the present Code to control the use of dangerous cosmetics, such as the use of the x-ray in removing superfluous hair. There are at present regulations regarding the x-ray by which its use is restricted to licensed physicians, etc., but this does not seem to be sufficient to prevent harm being done by it. Some people think that making an x-ray negative is something like taking a tin-type picture,—a click of the shutter and the thing is done. But this is not the case. When you consider the damage that can be done by an inexperienced operator of an x-ray machine, you will understand what a potentially dangerous thing it is. You can not produce death with a camera unless you hit the subject over the head with it, but you can actually destroy life with the x-ray or the high tension current used to generate it. The New York County Medical Society has taken the matter up and a special committee has made the recommendation that physicians who wish to have a patient examined may make sure that the County Medical Society has examined the laboratory and passed favorably upon it. Physicians, dentists, and veterinarians who are licensed may properly use the x-ray. The only question is as to borderline cases, and the improper use of it by those who are licensed by the state. Dr. Howard Fox says that while the x-ray will remove superfluous hair, it can only do so at the expense of endangering the surrounding skin. The campaign must be carried on by educational propaganda among physicians as well as among laymen.

Abel I. Smith, Esq.:—I came here this evening to discuss this subject with which I am well acquainted, representing as I do the American manufacturers of toilet articles. They manufacture two-thirds of the cosmetics on the market to-day. I came here expecting to have to defend cosmetics as we make them, but I find that his terminated in a discussion which relates to beauty parlors. I hold no brief for or against beauty parlors, but it seems to me the proper legislation against them is to prosecute them for practicing medicine without a license, and not to blame the cancer results on the face creams and cosmetics which they use. I am willing to discuss the use of cosmetics we manufacture and put on the market. Cosmetic; what is it? Back in 1924 the American Medical Association formed a committee from the Section on Dermatology which called on the House of Delegates for action to safeguard the people from dyed furs, hair dyes and cosmetics. At the Denver convention they sought to have legislation promulgated to take care of the cosmetic menace. The Dairy Food and Drug Commission prepared a bill which has been introduced into New Hampshire and Massachusetts and the bill was defeated. Let me show you what this bill seeks to cover. Section 2 reads: "A cosmetic as used in this Act means any substance, whether whole or in part, for use externally for embellishment, cream, perfume, or other means of improvement of the skin, hair, nails or teeth of the human body." It includes paper towels, bath towels (gives entire list . . .). It gives a list of the entire number of things used in cosmetics. Under that bill, without a doctor's prescription one could not make up a cream containing lead acetate for poison ivy burn; yet the druggist could sell the lead acetate to a buyer. Then there is a long list of mis-branding regulations. If you sell a silver handled mirror it must be labelled "For external use only"; a brass hairpin has to be stamped "For external use only".

I don't need to tell you there is no necessity for regulations regarding cosmetics as such. But if we are going to have legislation, don't let us have a patchwork bill. The bill introduced here is different from any other that has been introduced in three other states. Must the manufacturer use 48 different labels? If you do that you will have a bootleg trade. If there is any necessity for regulation, why don't all these gentlemen pool their efforts and have a bill that is right? Let the states then amend their regulations along federal lines. That brings us to the question, is there a necessity for regulation of cosmetics? I am using the word cosmetics in terms of what is sold for hundreds of thousands of dollars. That is the volume of the industry. Bearing in mind the immense volume of business done, the cases of harm that have been recorded are infinitesimal,—face powders, bleaches, shampoos, etc. These figures should be sufficient for anybody to realize there is no necessity for the regulation of cosmetics, as such.

Lloyd Paul Stryker, Esq.:—After the marvellous flight of oratory of Abel Smith, what can I say? I am thinking in millions; I am inhaling talcum powder. You have heard so much to-night and so ably put from so many sources that I feel that any observation I might make at this time, after hearing Dr. Hubbard, Dr. LeWald and Dr. Maloney, is superfluous.

There was one subject, however, which was not covered. Dr. Hubbard's figures took us back to 1867 when President Johnson was having so much trouble with Congress. An old and true friend of mine handed me to-night proof that in the time of Nebuchadnezzar, in the land of Ur, home of Abraham, the ladies used cosmetics.

It seems to me the subject divides itself into the question of the improper treatment by unauthorized persons in beauty parlors, diagnosing and prescribing, on the one hand; and the use of cosmetics on the other. With regard to the former, the laws of New York are as clear and sound as the laws of any state. The law of this State provides that no one not authorized to practice medi-

cine may diagnose, operate, treat or prescribe for any human pain, disease, deformity or other physical condition. Anyone who attempts to tell another what is the matter and what to do about it, if not licensed to practice medicine, commits a crime. All these fake beauty parlors which clean off warts, lift the face, etc., to satisfy the vanity of people can be handled to-day, and all it needs is a little intelligence and determination to enforce this law now in the hands of the Attorney General of the State and the County district attorneys.

When it comes to a question of cosmetics I am overwhelmed by Abel Smith. This thought did occur to me, however. Possibly more persons have been injured than have been reported. Without knowing anything about it, and on general principles, I imagine a number of persons interested have never come forward. As to the question of legislation, let me say I think we are fortunate in this community in having health officers of the highest order and reasonableness and intelligence, and I am sure they do not want to put over burdensome laws. As to the question whether it is important for the correction of fraud, I agree with the sentiments of Mr. Smith with regard to the question of avoiding surplus legislation. We have been fed up with legislation in the past few years; more laws have been enacted since 1913 than during the years to that time since 1870. There is a passion for it and the reason for it is that the people of this country have developed a complex for letting the government "do it". If there is going to be any legislation, my suggestion is that first we know all the facts in the case as to the need for legislation. That means study. And that would involve hearing from some of our friends whom Mr. Smith has not heard from. If there is to be legislation which involves interstate commerce it would be practically impossible if it were done by isolated states. Dr. Hubbard feels that if there is to be legislation the proper thing is to amend the Pure Food and Drugs Act. Mr. Smith grants, assuming that such legislation is necessary, that this is the way to handle it. I do not know if that is the way to handle it. A committee of the American Medical Association could go into this and ascertain how many people have been hurt. After those facts have been ascertained I would suggest that they be analyzed and a bill prepared that cannot be driven through and at the same time will not interfere with our private lives.

This subject to my mind opens one other thought. The credulity of the American public is to me a matter of growing surprise. Barnum had a wonderful conception of his fellow countrymen when he found out that they like to be fooled. Another thing that amazes me is that a man who owns a Ford car or a $75 radio set, when something goes wrong or gets out of order, does not let a friend or any chance person tamper with it; he takes it to an expert. The American people are sufficiently canny to realize that to have machinery repaired properly requires the attention of someone who understands the machine and how it works. Yet thousands and hundreds of thousands will take the most delicate mechanism, the human body, to any old fakir to be cured. I do not know the remedy unless the medical profession takes a leaf out of the book of some of these people who are menacing the public health. Outside of the legal profession, which is of course perfect, there is no other more conservative body of men than the doctors. But the minute you show a scientific man that a particular remedy will accomplish something for the good of mankind, he will go out into the highways and byways to give it to the people. The romance of our own times is typified this way in insulin, in the martyrs to the x-rays experimenting with their own bodies in the interest of science. All that was known before five years ago seems like old knowledge. Even the roentgenologist, the x-ray therapeutist who has made a life-long study of this inscrutable force for the uses of the human body, occasionally comes across an idiosyncratic who reacts abnormally to normal exposure to the rays. My point is this: Here is a great body of men dedicating their lives to the health and welfare of the people; little appreciated, often criticised and even ridiculed. If the American people only understood! They do not understand because the doctors will not tell them what the medical profession is trying to do. If they only understood that the only persons who come anywhere near understanding this mechanism which is the human body are the people who are devoting their lives to the study of this mechanism and this mechanism alone, and that their only chance of being cured of disease is to go to someone who knows something about it! That they do not is the doctor's fault and I think they really owe it to the public to let them know. Witness the success met by the publication of "The Microbe Hunters," on that absolutely dry subject, the isolation of germs. If the dramatic side of what they are trying to do for humanity were known a lot of people would be saved from going to the beauty parlors.

Dr. Hubbard, closing the discussion:—I have little to add as I think the subject has been well covered in the discussion. But I want to thank those who spoke in opposition of the proposed law because they have given us desirable information.

Anemia, Splenic (Banti's Disease)

Dr. Com. A. J. Toulon, Medical Corps, U. S. Navy, says that recognizing the fact that Banti's disease is a rather rare condition, it is with considerable reservation that such a diagnosis has been made in this case, but, after an observation of about three weeks, eliminating such other conditions as might give rise to some of the clinical symptoms present, nothing seems to remain but to make such a diagnosis.

The patient, E. P., seaman, first class, has been attached to U. S. S. *O-10* for about seven months, and for three months prior to his admission to this dispensary had been at Balboa, where his ship was undergoing overhaul. He was born in Irving County, Ga., October, 1900; had had seven years' schooling; was a farmer by occupation prior to enlistment; and enlisted in the Navy November 21, 1923.

Family history.—Father, two brothers, and three sisters living and apparently well. Mother died at age of about 40 years, after a protracted illness; cause of death unknown to patient. He states that so far as he knows there is no history of cancer, tuberculosis, or insanity in his immediate family or relatives.

Personal history.—Measles and several attacks of fever of unknown origin (probably malaria) as a child. Treated in 1923 for uncinariasis with carbon tetrachloride. Denies venereal infection. Does not use alcohol.

Present illness.—About one year ago noticed abdomen was becoming enlarged, but states that after active catharsis this condition would disappear. No other symptoms were apparent to the patient. About 10 days prior to admission his abdomen became very much enlarged and he experienced difficulty in breathing.

Physical examination.—A fairly large, well-muscled man; slightly jaundiced; abdomen enlarged; no outward signs of edema; temperature 98 degrees F., pulse 69, respiration 20. Heart and lungs negative; ear, nose, and throat negative; skin around lower abdomen and pubes showed evidence of scabies. No evidence or history of venereal disease. Palpation and percussion of abdomen revealed a large mass extending from the region of the spleen toward the umbilicus, and liver dullness about 3 inches below costal margin. Dullness in the flanks and tympanities on right side and upper abdomen. Signs indicative of considerable free fluid in abdomen. Paracentesis performed and 5,500 cubic centimeters of clear ascitic fluid removed. Reexamination of abdomen after paracentesis showed enlarged spleen extending 3 inches below left costal margin and liver dullness about three fingers' breadth below right costal margin. No evidence of varicosities about umbilicus, nor of general adenopathy.

Urinalysis.—Reaction, acid; albumen, negative; sugar, negative. Microscopic: Few cells and many urates.

Examination of stools.—Negative for ova; considerable free blood present.

Examination of blood.—R. B. C., 3,800,000; W. B. C., 4,000; Polys., 49 per cent; L. Lymph., 20 per cent; S. Lymph., 25 per cent: T & M. 5 per cent; Eosin., 1 per cent; Baso., 0 per cent; Hemoglobin, 65 per cent. Wassermann., negative; Vanden Bergh, positive for bile on direct reaction. Blood pressure: Systolic, 140; diastolic, 70. Examination of ascitic fluid, negative. Kahn precipitation test, negative.

Repeated blood examinations have given a constant low color index and a leucopenia between 3,800 and 4,000.

Other than respiratory distress, due to the accumulation of ascitic fluid, and a mild jaundice, there are no subjective symptoms determinable. Patient eats and sleeps well, is fairly strong, and is up and about.

The main points considered in arriving at a diagnosis of splenic anemia are as follows:

(*a*) Chronicity of present illness (probably dating back for several years.
(*b*) Enlarged spleen.
(*c*) Enlarged liver.
(*d*) Slight jaundice.
(*e*) Hemorrhage in bowel.
(*f*) Ascites.
(*g*) Persistent leucopenia with low color index.
(*h*) No adenopathies.
(*i*) Lack of constitutional symptoms.

The treatment instituted in this case consisted of active catharsis and increasing doses of Fowler's solution. Splenectomy has been considered, but with the associated ascites is considered hazardous.

This case is reported after a preliminary study with limited facilities for laboratory aids in diagnosis. A board of medical survey has recommended transfer to a naval hospital in the United States. Possibly after further study other symptoms may develop, and better diagnostic facilities may reveal conditions that necessitate a change of diagnosis; nevertheless the case presents many features that may prove interesting to many. —(*U. S. Nav. Med. Bull.*

The Asthma Clinic

LEONARD D. FRESCOLN, A.B., M.D.,
FORMERLY IN CHARGE OF U. S. VETERANS BUREAU ASTHMA CLINIC,
Philadelphia, Pa.

It has been found advantageous to add to the various clinics of a Medical institution a separate section, or sub-section of the Chest Department, known as the Asthma Clinic, which is set apart for the study and treatment of cases of Asthma, in particular, and "Hay Fever." Of course, some of these cases are first recognized in the Tuberculosis, Heart, or other Clinic, and then referred to the Asthma Specialist. Also a Chronic Bronchitis, or a Kidney case, may come to the Asthma Clinic, and have to be referred, perhaps, to his more appropriate place for further study. So it behooves one in a certain Clinic to be familiar with the general workings of the other Clinics.

Most of the Asthma cases can be diagnosed and treated as Dispensary cases. A particular time is set apart for handling them, one after another, and care must be taken in recording separately each case, lest mistakes be made, and one patient be given the proteid to which another is sensitive. Have record cards, handle one case at a time, record as you go along, and thus avoid error. Such system should apply to all lines of work.

It is not the purpose of this paper to go into descriptions of allergic reactions, problems of anaphylaxis, nor any theories of protein desensitization, but an effort will be made to show some of the activities of an Asthma Clinic, and bring out the practical problems that present themselves. Of course, in observing many cases, one cannot but wonder what is at the bottom of each case. For a long time, for example, we were taught there was present in these cases a spasm of the bronchides, interfering with the exit of air from the air vesicles. Then came the idea that the cause of interference with expiratory effort was due to swelling of the mucosa from sensitivity to various specific protein agents, as shown by reactions to these agents, filtered through a Berkfeld Filter, and injected between the layers of the skin, or scratched in, manifesting such reactions by red areas or wheals, and growing pesudopods, with some itching (or redness to conjunciva when an air-carried pollen reacts). It is true that many cases have considerable mucous which it is difficult to expectorate.

Why there should be a definite susceptibility to a specific agent in one person, and not in another, is not easy of explanation. Some families seem to have intolerances, particularly those who are disposed to be neurotic. Why should one person have alopecia, another psoriasis, or vitilligo, epilepsy, urticaria, color-blindness, pruritus, etc? A weak digestive-tract may be at fault, or the nervous system is weakened. Warfare is certainly a potent factor in breaking down the nervous system of one whose nerves were "unsteady" at the start, and then the unaccustomed exposures to damp and cold nights, together with a dose of irritating poison gas, all help start an asthematic habit. As for the many such cases regularly seeking relief at the Clinic, it may not be possible to say definitely whether or not they would have ever developed the disease without the war, any more than it can be said just how and when a certain case of Tuberculosis developed, but some reasonable arbitrary law has to be set down for general guidance in establishing service connection. "Asthma," or "Hay Fever," started at a more or less definite time in service, and has continued ever since, is a statement often gotten from claimants, in taking their histories. The matters of association with pet dogs, horses, cats; the use of toilet powders; dusty occupations, etc., are also questions frequently met with, but not always, in taking a careful history. In France, as in the United States, the air-carried pollens are largely responsible for the so-called cases of "Hay Fever." It is only logical to find Asthma and "Hay Fever" in the same type of individual, and, as a consequence, Emphysema. Sometimes cases of Fibroid Phthisis, and also Anthracosis and the like, develop an Asthmatic condition, in company with the compensatory Emphysema present.

It has become a common practice of late to try out some of the 80 or more substances in store, in order to locate the kind of sensitivity, and then proceed to desensitize by gradually raising a tolerance. Sometimes, also, mixed vaccines are administered, and, in addition, such drugs as Belladonna, Iodides, Nitrites, Lobelia, Euphorbia Pilulifera, Bromides, stramonium, Benzyl Benzoate, etc., in an effort to relieve these troublesome and distressing paroxysms. Yet the peribronchial thickening and distended air vesicles present are parts of pathology beyond much repair. Ulcers and bronchiectasis are referred to the Bronchoscopic Clinic.

"Soldier's Heart," Effort Syndrome, Neurasthenia, Hysteria, Tracheitis, Laryngitis, Pharyngitis, "Cigarette Cough," Essential Asthma, and Symptomatic Asthma, Silicosis, Pulmonary Abscess, Interstitial Pneumonitis, Chronic Bronchitis, and Tuberculosis are conditions frequently met with in the Veterans' Bureau, and dyspnoea is a common symptom, but, whereas typical asthmatic attacks are not uncommonly seen, many of the attacks are at night. At this late date, chronic peribronchial fibrosis and scars are the result of "gassing," and are seen rather than the original oedema, burn, and irritative process, yet in the asthma category there seems to be going on an active process which it is hard to break, as also particularly in some of the basal persistent moisture.

No doubt future research, correction of habits, removing deformities, and other measures, will aid further in helping these patients. It is found difficult to get men to change surroundings, get rid of pets, and feather pillows, and cooperate in all details. Another discouraging feature is the fact that some of these asthma cases resort to liquor and use of opiates, and other habit forming drugs. Always be on the lookout for such. A number of patients change to the country, some to the seashore, some accept hospitalization for a time, quite a few inhale fumes from asthma powders or smoke asthma cigarettes, and are relieved for a time. One man said he is relieved only when taking his Benzyl Benzoate straight, even though it burns. He also gets relief from light attacks by the use of Amyl Nitrite inhalation, though this makes him dizzy, and, at times, causes him to vomit. He crushes a pearl for inhalation, and shortly repeats several times, and then his attack is over in about an hour. He says he developed the disease while in the Tropics on the mountains. He also had "Hay Fever," but was cured by a nasal operation. He was also treated for Pulmonary Tuberculosis.

Another case said he was worse in damp weather and on cold days, but better when he did not eat much.

He claimed that when receiving the inoculations his arm was sore, and he was made weak after each inoculation. Some cases feel better in warm weather, others in cold. One colored man, who had severe attacks, gave himself as much as 1½ oz. of Adrenalin (1:1000) a week. He accustomed himself to as much as a syringeful at a dose, so he was hospitalized. Another, who was taking Adrenalin regularly, developed a blood pressure of 210, and was given substitution treatment. In giving a new case Adrenalin, be careful in starting low, as some are quite susceptible. Pituitrin preparations do not seem as effectual.

"Hay Fever" is no new disease, it having been recognized about the middle of the 16th Century that sneezing spells were associated with the presence of vines. In 1809, Schappingell found that it was pollen carried by the air and reaching a sensitive Schneiderian mucous membrane that caused the paroxysms, and, a few years later, the disease was named "Hay Fever." Experimenters tried out the pollens on themselves, and learned more of the condition, and then Dunbar discovered that it was the proteid portion of the pollen that caused the trouble. The annoyances from troubles of this kind are being greatly alleviated by the pollen desensitizations, and without the necessity of taking long sea voyages.

In concluding, care must be taken in order to determine the nature of cases complaining of "Asthma." Try to get conclusive evidence of the disease and its consequences, and then try to classify as to susceptibility. The nature of the method of handling each case will have to be decided on its own peculiarities, rather than by set rules. Avoid making habitues, vary the treatment, and encourage. Do not recommend unnecessary surgical measures, but those that are clearly indicated. Cases that are nocturnal Asthma may have some light employment during part of the night, and get their sleep during the day. We have endeavored to point out some of the peculiarities of individual cases met, rather than quote discussions of the subject, as found in the bibliography.

In the matter of "Hay Fever" in this locality, we have to handle principally, Timothy cases in the Spring, and High and Low Rag-weed in the Fall, starting treatment of the Spring cases about the middle of April, and the latter in the early part of July, so as to be ahead of the August 15th period.

411 South 44th Street.

Dislocation of the Head of the Fibula—A Rare Luxation

Lt. Com. W. W. Hall, Medical Corps, U. S. Navy, relates this case:

The fibula is a long, slender bone with a knoblike head surmounted by a pointed styloid process. The head can be palpated under the skin just below the external aspect of the knee. On the upper surface of the head is the articular facet, which is roughly quadrilateral and looks upward, inward, and a little forward. The facet of the tibia with which it articulates is small and is just under the external tuberosity, at the junction of the posterior and external surfaces. The tibiofibular articulation is a true joint inclosed by a capsular ligament. The joint cavity occasionally communicates with that of the knee by a small opening. The capsule is strengthened anteriorly and posteriorly by thickened bands, which are known as the superior tibiofibular ligaments. The joint is also reinforced by the external lateral ligament of the knee and the biceps tendon, both of which find their insertion in the head of the fibula. "The joint is very strong and so situated as not to be exposed to direct violence. Dislocation therefore is very rare."

The movement in the superior tibiofibular articulation is small, being chiefly a slight degree of rotation or play in the anteroposterior direction. This motion is occasioned by change in the relation of the articular surfaces of the ankle joint in the various positions of flexion and extension of the foot. The joint has no other function.

Cotton says that luxations of the fibular head are not common, but probably often pass unrecognized. As to causation he divides them into three classes, as follows:

1. Posterior luxation, usually caused by muscular traction through the biceps tendon.

2. Anterior luxation, probably from adduction and inward torsion (with the knee in extension), resulting in rupture of the external lateral ligament.

3. Upward luxation, from upward thrust on the fibula exerted at the ankle (abduction of the foot) with or without associated fracture (potts).

Of the diagnosis, Cotton says: "It is not easy. There is extreme local tenderness. The fibula head may be, but oftener is not, abnormally movable. Measurement from the fibular head to the tibial tubercle is our best evidence. The *x*-ray may help." Speed says: "An *x*-ray may fail to show any deformity. The anterior-posterior view should be made directly in front backward and both legs should be exposed for comparison."

Concerning the frequency of dislocation of the fibular head, Golley records a case and estimates the reported cases as about 25. His case was a forward and outward dislocation. Stimson states the number of reported cases as 25. Speed estimates them as somewhat more than 30.

Stimson says: "The patient is usually unable to walk because of pain, but can move the knee freely. Reduction has usually been easy by direct pressure while the knee was partly flexed. I was obliged to resort to arthrotomy in one case. Ligget refers to an unreported case in which reduction failed after two attempts under anesthesia. In two cases which were not seen until some time after the accident the displacement was permanent. In one the dislocation could not be reduced and the leg remained weak. The patient was able to walk but not to jump. In the other case reduction was accomplished but dislocation immediately recurred and local pressure and immobilization failed to cure." He suggests retention with adhesive plaster as a possible aid in such a case. Cotton's treatment is immobilization with flexion of the knee, especially in posterior displacement, to relax the biceps. "In recurrent dislocations an attempt to promote short fiibrous or bony union at this point would seem to be indicated." Speed says: "Reduction by direct pressure of the surgeon's fingers is not difficult, but the bone tends to slip out at once on account of the poor retention by torn ligaments." He recommends fixation in partial flexion for four to six weeks and the subsequent strengthening of the joint by adhesive bands. Prognosis as to function is excellent, he says, and cases which resist reduction or will not remain reduced can be held in place against the tibia by a nail inserted through a small skin opening.

Mrs. C., a young matron, when first seen, about 30 minutes after injury, was sitting with the left knee partially flexed and was apparently in much pain. She said that the leg was most comfortable in the flexed position and that motion (either extension or further flexion) occasioned considerable pain. Her husband had slipped and fallen on her knee as she lay on a couch and she had flexed her leg and turned her body in attempting to avoid the blow.

On palpation and comparison with the uninjured knee the head of the fibula was seen to be dislocated backward.

Reduction was easily accomplished by pressure forward with the fingers, the knee being partly flexed. A loud snapping sound was heard at the fibula slipped back into place.

A pad was placed behind the partially flexed knee and against the head of the fibula and a posterior splint applied. Later the knee was padded as before and a posterior, gutter, plaster of paris splint moulded. The splint was removed each night and passive motion and massage applied to the muscles of the leg. The splint was removed at the end of about three weeks and the knee bound with cotton elastic bandage. Recovery was complete.

Dislocation in this case was probably due more to direct violence than the pull of the biceps tendon on the head of the fibula after the rupture of the capsular ligaments and the anterior superior tibio-fibular ligament.—(*U. S. Nav. Med. Bull.*, July, 1926.)

Variation in Operative Treatment of Structural Scoliosis

Patients suffering from the severest forms of paralytic scoliosis, or from scoliosis from any cause are in poor constitutional condition and likely before middle age to be victims of intercurrent disease, according to Armitage Whitman, New York (*Journal A. M. A.*, Dec. 24, 1927). Any ambulatory apparatus thus far devised if comfortable is ineffective, and if effective is uncomfortable. Because of the anatomic peculiarities of this type of case, the routine Hibbs operation is impossible of performance. Resection of a certain number of protruding ribs has improved the patient's appearance, and appears to have a favorable influence on the deformity of the chest and secondarily on pulmonary ventilation. The employment of the resected portion of the ribs as homogeneous bone grafts has proved a useful adjunct to the ordinary operation. The post-operative constitutional improvement has justified the unusual risk of the operation.

Medical Times

THE JOURNAL OF THE AMERICAN MEDICAL PROFESSION

A MONTHLY RECORD
OF

Medicine, Surgery and the Collateral Sciences

ESTABLISHED IN 1872

EDITED BY
ARTHUR C. JACOBSON, M.D.

Contributions.—EXCLUSIVE PUBLICATION: Articles are accepted for publication on condition that they are contributed solely to this publication.

When authors furnish drawings or photographs, the publishers will have half tones and line cuts made without expense to the writers.

SUBSCRIPTION RATES
(STRICTLY IN ADVANCE)

UNITED STATES (Including Alaska, Cuba, Mexico, Porto Rico, Hawaiian and Philippine Islands)	$2.00 per year
CANADA	$2.25 per year
FOREIGN COUNTRIES IN POSTAL UNION	$2.50 per year
SINGLE COPIES, 25 CENTS	

Definite written orders for THE MEDICAL TIMES are required from all subscribers, to whom the journal is thereafter regularly forwarded.

Notify publisher promptly of change of address or if paper is not received regularly.

Remittances for subscriptions will not be acknowledged, but dating on the wrapper will be changed on the first issue possible after receipt of same.

All communications should be addressed to and all checks made payable to the publishers.

MEDICAL TIMES CO.
ROMAINE PIERSON, *President*
ARTHUR C. JACOBSON, *Treasurer*
REGINALD E. DYER, *Secretary*

95 Nassau Street - - - New York
Cable Address: Ropierson, New York

NEW YORK, APRIL, 1928

Father Knickerbocker Starts Something

Health Commissioner Harris has our best wishes for the success of his drive against the restaurants, soda fountains and luncheonettes whose uncleanliness with respect to glasses and dishes is a public scandal and a menace to the public health. His Sanitary Code amendment imposing fines upon offenders should be effective if enforced.

If these swineries and saliva tanks can be properly regulated the incidence of infectious disease in the city will drop from ten to twenty-five per cent, with the mortality rate also showing a measurable influence.

This amendment should provide a powerful club against the 15,000 (?) speakeasies operating in the city, since they are the most foul of dens.

Endowing Young Talent

In the January issue we discussed the fact that in the past course of medical progress the world's best work has been done in the main by young men, which has led Dr. James J. Walsh to question whether the long period of training that we exact to-day may not partially sterilize our youth. The late Mrs. John Innes Kane has bequeathed a million dollars for the creation of eight orthopedic fellowships to be awarded each year to promising internes, which will give them from three to five years of added opportunity for original work, free from economic strain. This is a good move, and will doubtless initiate similar endowments on the part of others. It shows recognition of youth as the most promising source of progress, although, as we pointed out in our earlier editorial, the great pathfinders of the past began their creative work much earlier than the men of to-day enter upon their vocation.

On Being Summoned

It is a commonplace to hear or read of a doctor being "summoned" to attend some prominent patient. It would seem that only prominent citizens summon doctors. Sometimes it is said that Mr. Smith's physicians were summoned, the implication being that no person of prominence (we did not say consequence) would have merely a physician.

If Mr. Smith feels or is thought to be extremely important he will summon our most eminent physicians and surgeons without turning a hair. It is quite difficult for some of us of the profession to imagine the summoning of our great colleagues, but they are summoned just the same, quite as bellhops might be.

But we observe that the summoned doctor has a neat means of "reprisal." He "orders" the prominent citizen to bed, or to the operating table, or to be transfused.

Just as it is only conspicuous Babbitts who summon physicians, so it is only the Babbitts who receive orders. Other patients request the physician to call and receive advice and counsel.

Thus everything squares, after all.

Coffee and Senescence

In his article on the "Hygienic Aspects of Coffee" Robert Roy Irvin (*Medical Journal and Record*, October 5, 19 and November 2, 1927) emphasizes the effect of coffee in increasing the speed of metabolism (325 grams of coffee infusion increases basal metabolism eight to nine per cent on the average, while doses of caffein equivalent to four or five cups of coffee raise the basal metabolism as much as fifteen to twenty-three per cent), while it "obscures the effects of fatigue." Reichert insists that "the virtues of coffee in the wear and tear of life are entirely subjective." The sense of well-being induced temporarily by it is obviously due not only to its cerebral effects but to improved elimination and oxidation of deleterious wastes, while evil after-effects are in part the result of metabolic collapse, so to speak, and consequent toxic retention; only by overlapping the dosage can the individual coerce the organism into so-called efficiency and purchase comfort dearly. Finally, O. T. Osborne makes the significant comment that coffee "can do nothing but increase the troublesome symptoms of old age."

The point which we wish to make on the basis of the foregoing findings is that coffee may play some part in inducing premature senility, since its speeding-up effects upon metabolism would tend to wear out the organism relatively early. It would seem to be common sense that racing any machine makes for senescence. The reason why it plays havoc with the aged is because it increases the aging process.

A majority of the public are unable to start the day auspiciously (?) without "priming" themselves with coffee, and there are few who do not indulge additionally in order to allay fatigue. Can it be that there is some relationship between such abuse of coffee and the premature senility that we see everywhere about us in increasing degree? And is there some relationship between such abuse and the prevalence of the degenerative diseases of middle and later life?

We attribute the advance of premature senility to the speed of our civilization. Coffee facilitates adjustment of the organism by increasing cerebration and metabolism. It is these two complementary factors which co-

operate in bringing the grave measurably nearer to the hurried and harried individual—perhaps.

Imagining two groups of experimental subjects, one dosed with coffee throughout life and one studied as a control, what would be the comparative duration of life?

The problem is one which would seem to be easily susceptible of experimental laboratory solution.

A short life and a merry one, say some. So a caffeinized life might be a highly productive and useful one. But let us have the facts; it will not change matters, but it might rationalize things a bit better.

We would not favor prohibition if the data evolved from animal experimentation related coffee to relatively early senescence. Our discussion is not posited upon prejudice, fanaticism or the reformatory mania. There can be no objection to more light on any subject. We disclaim any dark designs upon the coffee Babbitts or their customers, who are, one might say, the nation.

Masks and Faces

Dr. S. Adolphus Knopf presents statistics (*J. A. M. A.*, Feb. 18, 1928) which show a relatively greater mortality from tuberculosis among young girls as compared with boys of the same age. As an example, all of Wisconsin's twenty sanatoriums are filled with patients, with long waiting lists at many of them, this situation being due to the increase of tuberculosis among young girls. J. G. Drolet of the New York Tuberculosis and Health Association reports the mortality from tuberculosis among young girls between sixteen and nineteen as nearly twice as high as among the boys, while Howard W. Green of Cleveland submits figures showing that since 1918 the drop in the tuberculosis death rate for young males has far outstripped that of the girls in the same age group.

Were it not for rouge and the lipstick the malnutrition of many of our young women would be supplemented by ghastly lineaments and the true state of their health painfully manifested.

The customs of civilization camouflage realities in many ways. Before commitment to the sanatorium, where the victims of our social order are removed from offended eyes, cosmetics conceal (more or less) the ravages of disease. It is not the purposes of vanity that are served by lipstick and rouge so much as concealment of anemia and general ill health.

We are invited to view as the visage of health and the joy of life what is really a mask of death. What is seemingly a jig-like dance of life is in reality a dismal minuet, with the grim reaper directing its measures. It is all a gruesome masquerade which is not fooling the medical profession the least bit. The doctor knows just what poor human flourishes precede the casket ritual of the mortician. What matters an apical cavity if one can go painted like a savage to the very skids of doom?

There is Hope

Professor Paul Shorey calls upon the universities "not to teach some of their students how to persuade their fellow-men, but to teach all of their students how not to succumb too easily to persuasion."

The people as a whole are unable to resist the rhetoricians because there has been no effort "to create a body of educated opinion that would make irrelevance, unfair emotional appeal and demonstrable fallacies a dangerous indulgence for any leader who wishes to command the attention and respect of his fellows." Sophistry, pseudo-science, fashion and propaganda encounter helpless victims. Professor Shorey thinks it quite feasible to render these susceptible subjects immune to bunk.

Proper drill in rhetoric—giving the term its original meaning: general cultural training and logic—would discipline the reasoning powers of a democracy and make the recognition of claptrap certain.

While Professor Shorey is concerned chiefly with the discomfiture of sensational demagogues and ranters, it seems to us that the application of his principles and methods would go far toward the conferring of immunity against all sorts of ballyhoo and charlatanry. In the face of such resistance the cults particularly would make no headway and even die out. And even such phenomena as the American obsession regarding "autointoxication" would wane.

Then one could almost hope to see the last of such menaces to the public health and sanity as are constituted by the "healings" practised in certain evangelical quarters, even in the metropolitan district, by clerical mountebanks. It would seem that a very little "rhetoric" would suffice to hamstring these frauds, for not all of those exploited are morons, incapable of profiting by a little "discipline of the reason."

It is not medical education that the people need but the protection that Professor Shorey's "treatment" would confer upon them.

Let us hope that our youth will receive this training. It is perhaps too late and too expensive to immunize the adult population—and perhaps they are not worth the trouble.

Miscellany

New York State's Cases of Alcoholic Insanity More Than Quadrupled Since 1920

Alcoholic insanity, which has been reported increasing since 1920, gained again in 1927, according to statistics of the State Department of Mental Hygiene. A similar increase in four other States was found through inquiries made by Dr. Frederick W. Parsons, State Commissioner of Mental Hygiene. Figures for this State were procured from State hospitals for the insane.

In 1926 there were 422 cases of alcoholic insanity admitted to the State hospitals, or 5.8 per cent of the total. During 1927, 544 cases, or 7 per cent of the total, were admitted.

The department's figures show that while alcoholic insanity is increasing, an increase of other mental disorders also is taking place.

In 1920 there were 122 persons admitted for treatment of insanity due to the use of intoxicants. This was 1.9 per cent of the total admissions.

Dr. Parsons's inquiries made in other States showed that an increase had occurred in Illinois, Ohio, Iowa and Wisconsin.—*Associated Press.*

A Gruesome Record

Alcohol caused more deaths in 1927 than in any previous year either since or before Prohibition. Chief Medical Examiner Dr. Charles Norris makes the statement and for the whole country as well as for the city. Further, he says that bad as the saloons were they were neither as bad nor as numerous as are the speakeasies under Prohibition. And there isn't the slightest doubt about it.—*Evening World.*

Tribute to the Medical Corps

The report by the War Department that the first casualties of the American forces in the World War were sustained by the Medical Corps is another indication of the splendid but often unappreciated part played by that body of men in our army.

The troops of the line too often regarded themselves as on a higher plane than the members of the Medical Corps. This was partly owing to American army tradition which had fostered such a view in the past, and partly owing to the fact that as the men of the medical detachments were not armed they were not such direct participants in battle as the infantry and artillery.

The truth is, of course, that the medical men were exposed to constant danger; that they played their part without flinching; that they were of inestimable help to the men in the line. As a matter of fact the efforts of the thousands of young doctors and internes who joined the army in the war stand out as among the finest contributions of any section of American life. They deserve more credit than they received during war days.—*New York Times.*

The Smallpox Situation

The smallpox record for 1926 once again gives the United States the unenviable distinction of having reported more cases of this preventable disease than any other country outside of Asia. According to state reports tabulated by the American Association for Medical Progress, there were 33,752 cases of smallpox in this country during 1926, distributed over 46 states and the District of Columbia, compared to 41,643 cases in 1925. Only two states—Rhode Island and Vermont—were entirely free from the disease last year. The remaining New England states reported only 19 cases, as follows: Maine, 12; Massachusetts, 4; Connecticut, 2, and New Hampshire, 1.

According to figures compiled by the Health Section of the League of Nations, 10 European countries had no smallpox in 1926, 18 of them together reported fewer than 1,000 cases, leaving three nations—Russia, Spain, England and Wales—responsible for most of the smallpox in Europe during the year. For the first nine months Russia reported 5,039 cases, and Spain 108 deaths. England and Wales had 10,222 cases in 1926 as compared to 5,363 cases in 1925. It is significant that in both the United States and in England, smallpox is most menacing where anti-vaccination sentiment is strongest—in southern California, and in northern England.

Tabulations for the United States for 1926 follows:

	Cases	Deaths		Cases	Deaths
Alabama	1,285	5	Nebraska	806	6
Arkansas	221	0	Nevada	25	0
Arizona	18	6	New Hamp.	1	0
California	2,794	236	New Jersey	14	0
Colorado	201	1	New Mexico	50	0
Connecticut	2	0	New York	305	0
Delaware	1	0	N. Carolina	1,594	10
Dist. of Col.	16	0	N. Dakota	276	0
Florida	2,890	8	Ohio	2,133	1
Georgia	957	?	Oklahoma	868	0
Idaho	418	1	Oregon	1,557	5
Illinois	1,073	10	Pennsylvania	56	0
Indiana	3,571	8	Rhode Island	0	0
Iowa	1,131	2	S. Carolina	706	2
Kansas	535	2	S. Dakota	254	1
Kentucky	202	5	Tennessee	604	4
Louisiana	960	8	Texas	1,898	1
Maine	12	0	Utah	322	2
Maryland	5	0	Vermont	0	0
Massachusetts	4	0	Virginia	621	1
Michigan	550	4	Washington	2,413	31
Minnesota	282	0	W. Virginia	387	0
Mississippi	639	?	Wisconsin	350	1
Missouri	328	0	Wyoming	22	0
Montana	395	0			
			Total	33,752	361

Fewer Deaths From Influenza

During the last thirteen weeks of the years 1925, 1926, and 1927, 28 States reported cases of influenza as follows: 1925, 6,972 cases; 1926, 7,777; 1927, 6,747.

These States had an aggregate population of about 62,800,000 in 1927.

GEORGE BOYER CREVELING

It is our painful duty to record the death of George Boyer Creveling, advertising manager for THE PRACTICAL DRUGGIST and *The Medical Times*, who died at his home in Jersey City on February 28th, after a brief illness due to pneumonia.

He was born in 1865,, on a farm in New Jersey near Asbury and after graduation from Burlington Military Academy, took up the study of law, was admitted as an attorney of law in New Jersey in 1887 and shortly after as a master in chancery. Having always been interested in medical advertising Mr. Creveling took a position in Philadelphia with the publishers of the *Monthly Cyclopedia of Practical Medicine* where he remained several years and rapidly made a name for himself in that field.

Believing greater opportunities existed in New York, he accepted in 1899, the position of advertising manager of the *Medical Record*, which position he filled with great success for many years. In 1922, William Wood and Company disposed of the *Medical Record* and Mr. Creveling accepted an offer of Romaine Pierson, publisher, to become advertising manager of his two publications, THE PRACTICAL DRUGGIST and the *Medical Times*. He was also secretary of the Medical Times Company and treasurer of the New York Press Club, an organization of newspaper men.

The success by which the efforts of Mr. Creveling have been attended is too widely recognized to require proclamation by us, and the esteem in which he was held by all those who had the pleasure of knowing him was only equalled by the popularity he achieved among the patrons of the business end of the publications. He left a void which will be hard to fill.

Mr. Creveling in his career as a solicitor of medical and drug advertising traveled through all the New England States, as far south as New Orleans and westward to Omaha and Kansas City. Wherever he was known, he established a reputation for truth and integrity second to no man in his field of endeavor.

The funeral service was held the evening of March 1st, at his residence in Jersey City and attended by many of his friends and business associates. Interment was at Asbury, New Jersey. He is survived by a widow.

Indications for Operative Treatment of Fractures

If one is a master of the general principles and technical details of both external and internal fixation, is informed as to the results of such treatment, has a complete knowledge of the proper use of massage and active movement and can secure the patient's complete cooperation, Charles L. Scudder, Boston (*Journal A. M. A.*, Dec. 3, 1927), says one's vision of the surgical treatment applicable to a given case of fracture of bone will be so broad, one's selection of the treatment will be so wise, and one's execution of the treatment chosen so ideal that the result both functionally and anatomically will be the best obtainable for that particular individual under the local conditions and environment found existing. With the present limited knowledge of the results of ideally conducted nonoperative methods and the results of ideally conducted operative methods, it is impossible to state a final opinion on the applicability of one method of treatment to a certain fracture. Under present conditions, fractures fall into three groups: (1) those never operated on; (2) those always operated on, and (3) those in which operation must be looked on as of doubtful applicability. In the first group will be found Colles' fracture, fracture of the clavicle, many fractures in childhood or the adolescent period, and many birth fractures. In the second group will fall fractures of the patella with wide separation of the fragments; fracture of the head or neck of the radius with such displacement of the small proximal fragment that there would result without operation great limitation of pronation and supination; fracture of the olecranon with wide separation; fracture of the shaft of the radius with displacement; irreducible fracture of the shaft of the femur; certain spiral and oblique fractures of both bones of the leg in the middle or lower third, and fractures of the os calcis in which the line of fracture enters the astragalocalcaneal joint. In the third group are fractures in the humeral shaft above the middle and near the shoulder joint of both bones of the forearm, and many others.

The Physician's Library

Foot Orthopaedics. By Otto F. Schuster, Professor Mechanical Orthopaedics in The First Institute of Podiatry and Chief of Staff, The Foot Clinics of New York. Edited by Maurice J. Lewi, M. D.

Not many books have been published which have limited themselves solely to the diagnosis and treatment of foot conditions. Foot ailments demand our most serious study and any book which collects available data dealing with the abnormal and the norml foot is worth while adding to our library.

This book presents all things in the domain of foot abnormalities that have proven good. It is extremely practical and will prove of value not only to the medical student but also to the practitioner who is interested in foot ailments.

The book is especially to be commended for the very fine quality of the printing and also for the many fine X-ray pictures and other illustrations.

In the chapter "Odd Foot Types," the author makes a new classification. He eliminates serviceable functionating feet, regardless of their difference in contour or seeming abnormality, from the group of foot deformities, because in the latter the natural assumption is that function is impaired. Thus he classifies congenitally low-arched but serviceable foot (Pes Planus) as an odd foot type and not as a deformity.

There is much in this volume which will commend itself to the general practitioner to whom the practical features of minor foot defects are known only as he has met them in every day practice and who was never taught at a medical school how to make pads, casts, supports, etc., fitting for this specific character of professional helpfulness. This applies more particularly to the chapters on "Footgear," "Conditions Comonly Grouped Under Flat Foot," "Painful Affections of the Anterior Metatarsal Region" and "Painful Affections of the Heel."

The volume is edited by Maurice J. Lewi, M. D., the President of the First Institute of Podiatry and its Clinics and formerly Secretary of the New York State Board of Medical Examiners. Dr. Lewi has edited many of the works which have been published by this Institute and will edit more which are to follow. This phase of the activities of the units mentioned is highly creditable to the executives and is fitting since through this medium not only the student body, but also the profession, gains knowledge of the advances being made along scientific lines by this special branch of medical practice.—Jacob Grossman M. D.

Medical Insurance Examination: Modern Methods and Rating of Lives. By J. Paterson MacLaren, M.A., B.Sc., M.B., etc. William Wood and Company, New York. 1927.

This excellent work covers insurance practice in all English-speaking countries. Moreover, it is guide for local and general managers and actuaries as well as for all grades of medical examiners. Its comprehensiveness should therefore recommend it highly to all types of insurance specialists. Aside from its high technical excellence the book is engagingly human in its style, and there is a vast amount of information in it which any practitioner, whether engaged in insurance practice or not, will find highly edifying.

The Young Man and Medicine. By Lewellys F. Barker, M.D., LL.D., Professor Emeritus of Medicine, Johns Hopkins University. The Macmillan Company, New York. 1928.

This is one of a series of books dealing with various vocations and aiming to aid the student in estimating his fitness to embrace one of them. Dr. Barker's presentation of the advantages, opportunities and ideals to be found in medicine is, as would be expected, expert and charming. His tribute to the general practitioner—pages 20-27—is a gem, while his discussion of specialism —pages 27-37—is fraught with edification. While this book is intended for the young man endeavoring to choose a profession, the practising physician will find perfect expression in it of that appeal which the profession has always made to him and which will sustain him to the end.

How to Cook for Children: A Cook Book for Mothers. By Estelle M. Reilly; with an Introduction by Dr. Charles Gilmore Kerley. G. P. Putnam's Sons, New York. 1927.

This presentation of the art of cooking for young children will enable mothers to apply physicians' feeding directions successfully. Too often the physician assumes a knowledge of cookery on the part of the mother which she simply does not possess. The book covers the whole range of the subject in the clearest possible fashion and we agree with Dr. Kerley that it supplies a real need. The physician would do well to familiarize himself with the author's technic besides recommending the book to his clientele. All of us need such aids in the control of "the most important feature of a child's life, the selection and preparation of his food."

The Cause and Cure of Speech Disorders. By James Sonnett Greene, M.D., Director of the National Hospital for Speech Disorders, and Emilie J. Wells, B.A., Supervisor of the National Hospital for Speech Disorders. 458 pages. The MacMillan Co., New York. 1927.

The general practitioner will not find a book of this type suited to his needs, but it will be of some value to the nose and throat specialist, and of greater value to teachers and those who speak in public or have occasion to instruct others. Stuttering, stammering, normal and abnormal voice conditions are described in a lengthy and detailed manner, with advice on the training and encouragement of the patient or pupil. The psychological and neurological phases are ably discussed, and methods of diagnosis and treatment are given. L. G. B.

Clinics, Hospitals, and Health Centers. By Michael M. Davis, Ph.D., in collaboration with other staff members of the Committee on Dispensary Development of the United Hospital Fund of New York. 546 pages. Harper and Brothers, New York and London. 1927.

One interested in the organization and general policies of clinics and hospitals can find outlined in this book their fundamental principles, the record of their history and growth, and the types of patients met with and methods of estimating their economic status. Actual details of clinic management are given, ranging from the regular medical and surgical departments on to the more general types embracing health programs and Health Center organizations. L. G. B.

Dengue. By J. F. Siler, Lt. Col. Medical Corps, U. S. A., President U. S. A. Medical Department Research Board; Milton W. Hull, Major, Medical Corps, U. S. A., Member U. S. A. Medical Department Research Board, and A. Parker Hitchens, Major, Medical Corps, U. S. A., Member U. S. A. Medical Department Research Board. 476 pages, 8 plates, 97 text figures. Bureau of Science, Manila. 1926.

Dengue, or "Beak-bone Fever," is clearly presented to us in this very thorough work on the subject. The history of its recognition as a definite clinical entity is traced back to the Maya records of Yucatan, while innumerable observations made in past and recent times cover the problems of transmission by mosquitoes, the distribution of the disease, the clinical aspects, and the factors in prevention and development of immunity. Although the actual causative organism remains unknown, the authors seem to have definitely overthrown the generally accepted belief that the disease is transmitted by Culex Fatigans. They have collected considerable data proving that the Aedes Egypti, commonly known as the yellow fever-bearing mosquito, is the real offender. The logic of their reasoning on the subject is further strengthened by their demonstration of the parallelism in the spread of dengue and yellow fever. The technical details of the extensive laboratory work are well described and well illustrated. L. G. B.

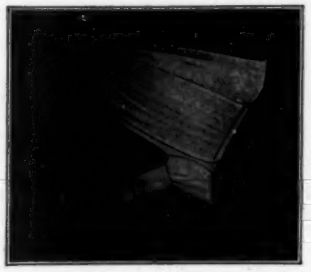
Use and Abuse of Physical Therapeutics

Frank B. Granger, Boston (*Journal A. M. A.*, Oct. 8, 1927), points out that physical therapeutics should be used only as one of the triad of medicine, surgery and physical therapeutics, and only in connection with its sister members. Bearing in mind that so far the only demonstrable properties of physical therapeutics are comprised under the headings of chemical, mechanical, thermal and psychic manifestations, one should use every effort to apply these properties to the pathological condition in question. Generally, the best results are secured from a prescription combining at least two of the five subdivisions of physical therapeutics—hydrotherapy, electrotherapy, passive exercise in the form of massage, active exercise in the form of gymnasium or games, muscle reeducation; and mechanotherapy (the last strictly speaking a combination of muscle reeducation and gymnasium with the possible added incentive of competition). Among the pathologic conditions in which physical therapeutics may be of value are: nonunion or delayed union of bone; lower back injuries; adherent scars; bursitis; peripheral paralysis; neuritis; pneumonia; acute myositis; myositis ossificans traumatica; sprains; fractures; arthritis; surgical tuberculosis and tuberculous peritonitis, and various skin conditions. It is an abuse of physician therapeutics to use it except: (1) after a careful physical and laboratory examination; (2) as an adjunct to other standard and well recognized procedures; (3) in teamwork with the other branches of medicine and surgery; (4) after a definite attempt is made to apply the proper physiologic effects to the predetermined pathologic condition, and (5) when every care is taken not to use it in place of other proved methods that may be superior.

Trademark Registered **STORM** Trademark Registered

Binder and Abdominal Supporter

(Patented)



Trademark Registered Trademark Registered

For Men, Women and Children

For Ptosis, Hernia, Pregnancy, Obesity, Relaxed Sacro-Iliac Articulations, Floating Kidney, High and Low Operations, etc.

Ask for 36-page Illustrated Folder.
Mail orders filled at Philadelphia only—within 24 hours.

Katherine L. Storm, M. D.

Originator, Patentee, Owner and Maker

1701 DIAMOND ST. PHILADELPHIA

ERGOAPIOL (Smith)

For
AMENORRHEA
DYSMENORRHEA
MENORRHAGIA
METRORRHAGIA
ETC.

ERGOAPIOL (Smith) is supplied only in packages containing twenty capsules.

DOSE: One to two capsules three or four times a day.

SAMPLES and LITERATURE SENT ON REQUEST.

MARTIN H. SMITH COMPANY, New York, N.Y.U.S.A.

Underberg

(Trade Mark)

For the Stomach

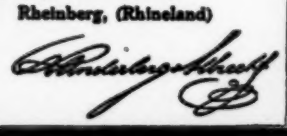
49% of Alcohol (by vol.)

This renowned wholesome vegetable preparation is recommended for stimulating the appetite and as a stomachic of agreeable effect upon the alimentary function.

H. Underberg-Albrecht,

Established 1846 Rheinberg, (Rhineland)

Genuine only if bottle is sealed with the above seal and label shows the facsimile signature at the right.



Underberg

TRADE MARK

ESTABLISHED 1846

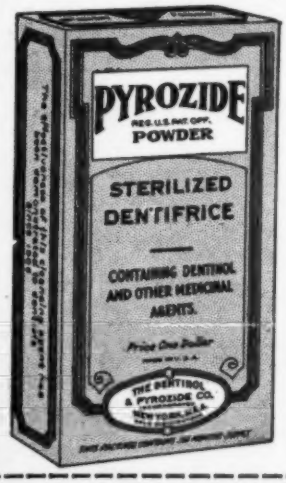
A Splendid STOMACHIC

Stimulates Appetite and aids Digestion. Try it. Send for free sample and full particulars.

Sole Importers

UNDERBERG SALES CO., 29 B'way, New York

Unfamiliarity with facts often is an elusive, costly ingredient in the care of the teeth and gums.



Clean teeth and solid teeth are good investments. But they are not in the 100% class unless backed or supported by hard gums.

In recommending PYROZIDE POWDER to your patients, it is important to know that this dentifrice is medicated with DENTINOL—a healing agent used by dentists since 1906—and that the tooth cleansing and gum hardening properties of Pyrozide Powder are features which will commend themselves to all users.

FREE SAMPLES COUPON M.T.

THE DENTINOL & PYROZIDE CO., *Sole Distributors*
1480 Broadway, New York City.

Please send FREE SAMPLES PYROZIDE POWDER for distribution to patients.

Name ..... M.D.
Street .....
City and State .....

In Coryza, Laryngitis, La Grippe, Influenza

℞ PINEOLEUM

One-half dozen new Pipet packages, or $1.00 Improved, Nickel-plated, Rubber Bulb, Oil Nebulizer free on request.
The Pineoleum Company, Dept. MJ, 52 West 15th Street, New York City

CLASSIFIED WANT ADVERTISEMENTS

$1.50 for 35 words or less. Additional words, 4c. each.
CASH WITH ORDER.

FOR SALE—EXCHANGE—SITUATIONS—PARTNERSHIPS, ETC.

FORMS CLOSE 24th OF THE MONTH.

For Rent—Fine physicians office, ground floor, centrally located. Reasonable rent, ideal for Eye, Ear, Nose and Throat specialist or small clinic for four or five good men. Address, Mrs. W. A. Hager, 116 S. Taylor Street, South Bend, Ind. C4

Nurse—Would attend patients regular school physician. Wishes three unfurnished rooms, Borough of Manhattan. Address Mrs. E. H. c/o Mrs. George See, 240 Martine Ave., White Plains, New York. C4

For Sale—Private Hospital, 21 rooms, equipped. Bridgeton, New Jersey. Beautiful house and grounds. Finest location. Good opportunity for obstetrics and surgery. Write Mrs. Stonehill, 54 Monroe Street, Brooklyn, New York. C4

For Sale—All or half interest—Steuben Sanitarium, southern New York; fully equipped and operating successfully; suited to surgery, addicts, neurotics or well located for tubercular institution; 60 to 70 patients; fireproof building; own heating and lighting plant; 20 acres forest; property adjoins city limits. Dr. J. F. Roe, Binghamton, N. Y. C3

Wanted: Superintendents, Directresses of nurses, instructresses, dietitians, general duty and surgical nurses, X-Ray and laboratory technicians for positions in all parts of the United States. Send for free book. Aznoe's Central Registry for Nurses, 30 N. Michigan Ave., Chicago, Ill. —t.f.

Books—Biggest medical book bargain house. Dealers in new and slightly used medical books. Send for our new 1927 catalog of exceptional book bargains just issued. Login Brothers, 1814-1816 W. Harrison St. (Opposite Cook County Hospital), Chicago, Ill. —t.f.

New York Medical Exchange, 489 Fifth Ave., New York City, has on file the applications of well qualified experienced superintendents, executives, pathologists, roentgenologists, technicians, physio-therapists, chemists, anaesthetists, social service and manuscript workers, medical secretaries, dietitians, and housekeepers. Call upon us. We can help you. —t.f.

Edward A. Kellar Company, Inc. Makers and fitters of elastic hip corsets, elastic dancing belts, supporting belts, surgical corsets, elastic stockings, knee caps and anklets, arch supports, leg and spinal braces, sacro-iliac belts, trusses. Foot specialist. Exclusive department for women. 160 West 72nd Stret, near Broadway, New York City. Telephone Endicott 1764. Office Hours: 9 A. M. to 5 P. M. —2

Wanted Positions: We have Class A physicians and surgeons available for salaried appointments in all parts of the United States. We can put you in touch with physicians desiring positions whose references have been carefully investigated. No charge for this service. Aznoe's National Physicians' Exchange, 30 N. Michigan Ave., Chicago, Ill.

Wanted.—Natural History Books.—The Lloyd Library, 309 West Court Street, Cincinnati, Ohio, is interested in the purchase of books relating to all branches of natural history. Book dealers issuing catalogues relating to these subjects are requested to send them to our address. Offers regarding the sale of books on these subjects will be considered at any time. The Lloyd Library, 309 West Court Street, Cincinnati, Ohio.

INDEX TO ADVERTISERS

Abbott Laboratories 11
Alkalol Co. 3
Andron Hygienic Co..... —
Arlington Chemical Co.... 14
Armour & Co..... 23
Aurora Health Farm..... 29

Bauer Chemical Co..... 21
Bilhuber, Inc., E..... 34
Breitenbach Co., M. J..... 16
"Bright Side" Sanitarium. 29
Bristol Myers Co..... 33
Burnham Soluble Iodine Co..... 31

Campho Phenique Co..... 19
Carnrick Co., G. W..... 8
Chalfonte-Haddon Hall.... 31
Colwell Pharmacal Corp... 33

Dentinol & Pyrozide Co.. 37
Denver Chemical Mfg. Co. 10
Dermatological Research Laboratories 11
Deshell Laboratories, Inc.. 4
Desitin Chemical Co..... 6
Ditman, A. J..... 33
Doctors Entre-Nous ..... —
Drucker Co., Aug. E..... 32
Drug Products Co..... 25

Easton Sanitarium..... 29
Electro Surgical Instrument Co..... 33

Fairchild Bros. & Foster.. 15
Fair Oaks Sanitarium..... 29
Fellows Co..... 14
Foot Orthopaedics..... —
French Lick Springs Hotel 28, 30

Galactone Company 36
Genius ..... —

Haley M-O Co., The.....
Hoffman-La Roche Chemical Works 7
Horlick's Malted Milk Co. 24

Idylease Inn..... 29
Interpines 28

Katharmon Chemical Co... 16

Lambert Pharmacal Co.... 17
Life Extension Institute, Inc. 26
Lilly & Co,. Eli..... 40
Lloyd Brothers, Pharmacists, Inc..... 21

Maple Farm Home..... —
Marks, A. A..... 33
Mellier Drug Co..... 17
Merck & Co..... 25
Mulford Co., H. K..... 9

National Drug Co..... 17
Nujol Laboratories 41

Od Chemical Co..... 19

Parke, Davis & Co..... 5
Patch Co..... 35
Peacock Chemical Co..... 12
Peerless Truss Co..... 33
Phillips Chemical Co., The Charles H..... —
Philo Burt Mfg. Co..... 33
Pineoleum Co., The..... 38
Pitman-Moore Co. 20
Plessner Co., The Paul..17, 36
Pneumo Phthysine Chem. Co..... 26
Purdue Frederick Co..... 34

Radium Hospital of Brooklyn..... 30
Riedel & Co., Inc..... 36
Riverlawn 29
Roller Laboratory, Emil... 33

Schering & Glatz..... 13
Sharp & Dohme..... 23
Smith Co., Martin H....16, 37
Shelburne Hotel 30
Standard Oil Co. of New Jersey 2
Storm, Dr. Katherine L... 37
Sultan Drug Co..... 18

Toledo Technical Appliance Co. 35
Towns Hospital, Charles B. 28

Underberg Sales Co..... 37

Valentine's Meat Juice Co. 20
Vapo-Cresoline Co..... 13

Wadsworth's Sanitarium... 30
Wander Co., The..... —
Warner & Co., Wm. R. 12, 18, 27
Westport Sanitarium..... 29
Wile, Sons & Co., Julius..35
Wulfing Co., Inc..... —
Wupperman, J. W..... 36